Financial Markets and Foreign Ownership

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Preface

Since the economic shocks of the early 1970s, foreign ownership has ceased to be a major topic of economic debate in Canada. Nonetheless, the Ontario Economic Council continued to conduct a small number of studies on this topic from 1974 to 1978. In my view, one of the least developed areas of knowledge concerning foreign direct investment is financial market factors, the topic of this monograph.

Initial high expectations were dashed by the realization that little direct information or statistics were available. Extensive work had to be done to cross-reference data with country of control merely to deal with one small area of this study (for example, stock market liquidity). In other areas CALURA data is of doubtful use for many questions. Nonetheless, it is hoped that this research will have brought together some of the main strands of concern, explored a number of areas, and separated out some non-issues.

Since the subject matter covers the industrial sector, the flow of funds, macroeconomic policy, and financial institutions both in Canada and abroad, this study must necessarily be selective. There is a good deal of information about certain aspects of our financial economy, virtually nothing about others. Some promising areas could not be examined because of the shortage of time or of resources such as computing facilities. The data handling problems were immense. In 1958, W.C. Hood stated: 'we lay down our pen with considerable regret, for in many respects the study is not yet complete' (Hood, 1958, iii). Twenty years later the stock of knowledge that is basic to many economic, business, and policy issues in Canada is better but still meagre.

The methodology in this study is conventional and varies from historical to econometric to theoretical; international comparisons have often been found helpful. During my research I was occasionally advised to be radical. It was said that financial 'markets' as such do not exist, only a network of

contacts. Surprisingly, a similar view occasionally came from within the financial industry itself. Case studies and gossip confirmed some examples of questionable behaviour, but they were neither sufficient nor desirable methodologically to support a scientific enquiry. Yet there is concern about the equity and efficiency of Canadian financial markets and the government policies that affect these markets that cannot be entirely dismissed without a more wide-ranging enquiry.

Although this study was conducted under the auspices of the Ontario Economic Council, data specific to Ontario firms were not available. Those interested in foreign ownership in Ontario alone can refer to Ontario government publications which cover a narrow area of this topic (see for example, *Foreign Control of Ontario Industry*, Ministry of Treasury, Eco-Economics and Intergovernmental Affairs, October 1976, and the many reports of the Select Committee on Economic and Cultural Nationalism published by the Queen's Printer for Ontario).

I would like to thank all those who have contributed to this monograph while absolving them from blame. Louis Hui and Glen Siegel performed the statistical work, while two anonymous referees did an excellent job of ferreting out weaknesses and inconsistencies. Participants in the review seminars organized by the Council also contributed in a major way.

Chapter 1

Introduction

Concern about foreign ownership centres on the consequences for Canadians of the alienation of control of industry. Many implications of foreign ownership have been explored, including the effects on GNP growth, research and development activities, tax revenues, exports, and so forth. There is a large body of Canadian literature on these topics, as well as a modest amount from other countries.

Control of industry, in turn, is related to wealth and its allocation. Financial markets, in creating, allocating and reallocating titles to wealth, be they equity, bonds, debentures, mortgages, term loans, bank deposits, Canada Savings Bonds, or whatever, will alter the ownership of wealth and, in some cases and certainly over a long period of time, the control of Canadian industry. Financial markets are by their very nature risky. Their purpose is partly to share risks. If Canadians prefer Canada Savings Bonds to industrial, mining, or oil stocks, the prices of these securities will be affected, and the ownership of industry may gradually change. If Canadians in general prefer safety to risk, what will be the effect? Do Canadians save enough, and if they do are the savings finding their way to projects, by governments or industry, with the greatest benefits?

Not only do financial markets influence foreign ownership but the extent of foreign ownership will affect financial markets as references throughout the text will show. Financial market considerations, while important, must still be viewed in the context of the other well-known determinants of foreign direct investment. The literature suggests that the major factors are industrial. They are related to tariff or other impediments to competition in particular product lines, defence against loss of market shares, production behind tariff

barriers, securing markets for intermediate or final products, or acquiring stable access to inputs, particularly raw materials. Richard Caves is a leading exponent of this view, which seems to accord with his observations that foreign direct investment 'tends to occur only in certain of its possible institutional forms and within only a few of the many industries found in the developed countries' (1972, 266).

While accepting much of the analysis which concentrates on industrial issues, one may still raise several questions. First, if there is tariff protection or some impediment to competition, why would mainly foreign rather than Canadian firms take advantage of profitable opportunities? Obviously, access to funds is important. Similarly, if product differentiation and advertising are important, Canadians would often be in as good a position as foreign firms to exploit such markets. Once again, foreign firms may have a head start, but the ability of Canadians to raise capital will have an impact on the resident or non-resident control of much of the economy. McManus (1972, 70) points out also that 'no evidence has been presented to show that the extent of foreign control is significantly correlated with the technological complexity of industrial processes or with the proportion of the total costs of an industry that are costs of administration.'

In consequence, many observers have noted that Canada does not have a problem of foreign control so much as a problem in generating *domestic* control. Moreover, many policies on foreign ownership have an impact on financial markets, and the extent of foreign control could well alter our traditional view of capital markets and financial policy.

OFFICIAL STUDIES

The influence of financial markets on official concern with foreign ownership is not new. The 1957 *Report* of the Royal Commission on Canada's Economic Prospects, chaired by Walter Gordon, was concerned with ownership and control. Its basic view was that 'if there are features of the capital

market which are not wholly satisfactory, they are decidedly of the second order of importance' (Gordon, 1957, 379); however, it noted 'an inadequate supply of Canadian capital which can be readily mobilized for large scale projects requiring a concentration of equity capital on which no immediate return may be expected' (ibid, 378). The *Report* also recognized the importance of the use of retained earnings by Canadian subsidiaries of foreign-controlled firms and questioned whether monetary policy could be either effective or desirable in Canada with a large foreign-controlled sector of industry. The *Final Report* (430-1) states

> Canadian subsidiaries may be influenced only indirectly, if at all, by the workings of Canadian monetary policy. Their capital requirements may be supplied either by their foreign parent companies or by ploughing back of their own earnings and deferring the payment of dividends to their parents. This gives these companies a decided advantage over their domestic competitors in Canada who must look to the security markets and to the commercial banks to meet their needs for capital ... The activities of the weaker credit risks, who are more likely to be the smaller businessman, are apt to be restricted to a greater extent than those of large concerns, including subsidiaries of foreign companies.

The royal commission made a number of recommendations. First, Canadians should endeavour to have a larger share of foreign capital invested in bonds and mortgages than in equity, which if 'a substantial part of earnings are retained and re-invested ... tends to increase interest of Canadian investors in U.S. equities.' The reasons suggested were lack of choice among equity securities in Canada, lack of depth in Canadian markets, making it difficult for institutions to trade large volumes of shares without influencing the price, securities legislation less restrictive in Canada than abroad, and the presence of wholly owned subsidiaries and private Canadian firms. The *Report* recommended tax incentives to encourage foreign subsidiaries and all large Canadian private companies to sell shares in Canada.

As with the Royal Commission on Canada's Economic Prospects, the Watkins Report (*Report of the Task Force on the*

Structure of Canadian Industry, 1968) came out strongly in favour of greater disclosure. The Report was also concerned about the longer-run balance of payments implications of foreign direct investment, and the balance of payments is essentially a monetary phenomenon. This raises questions, which the Watkins Task Force did not explore in detail, about the desirable operation of monetary, fiscal, and exchange rate policies.

The Gray Report, *Foreign Direct Investment in Canada* (1972), contains the most extensive discussion of the links between financial markets and foreign ownership. It dealt with the balance of payments implications, the adequacy of domestic savings, and the gaps and weaknesses in Canadian financial markets. The latter were to be found in deficiencies in venture capital, expansion capital, large pools of capital for major resource exploitation, and capital for regional development. These gaps increase the likelihood of finance coming from abroad and growing foreign control.

The lack of liquidity in Canadian capital markets was alleged to reduce the demand for Canadian equities by pension funds, mutual funds, and other investors. This would increase the cost of capital, lead to Canadians investing abroad, and encourage foreign financing. Greater liquidity would 'facilitate firms wishing to issue new stock or bond issues' (ibid, 99). New private and public issues, obviously important in encouraging Canadian control but risky investments, would be the main beneficiaries of improved liquidity.

The Gray Report also raised questions concerning the capitalization of the financial industry. Low capitalization would reduce the ability of the Canadian capital market to bear risk in financing industrial development by younger companies. It noted the high degree of concentration in banking, life insurance, trust, mortgage loan, sales finance, consumer loan, and investment dealing. Competition in underwriting was described as at best modest. And it discussed the difficulties facing Canadian-controlled companies in periods of tight money. A number of suggestions for improving Canadian capital markets

were sketched. The conclusions of this section of the Gray Report are of considerable relevance to the present study. In particular

> there are no strong reasons, relating to the Canadian balance of payments or to the volume of domestically generated savings, which would require Canada to rely upon foreign direct investment to maintain a satisfactory rate of economic growth. The main worry is that Canadian savings are not being transmitted by the financial intermediaries to business enterprises for the starting up and expansion of capital stock to the extent that the level of savings in the economy would permit. (Ibid, 113)

The Ontario Legislature's Select Committee on Economic and Cultural Nationalism (1974) discussed this subject too. Their report on financial aspects covered much of the same ground as the Gray Report but devoted more attention to the provincial role in capital markets. It made a number of policy recommendations, in particular considering the role of Employee Stock Ownership Trusts.

Of the reports mentioned above, only Walter Gordon's Royal Commission on Canada's Economic Prospects tried to put together some statistics and facts, rather than simply making assertions, and that work is currently twenty years old. Furthermore, many of the statements made in all these reports are vague and suggestive rather than substantive.

STATISTICAL BACKGROUND

As a starting point, and in order to avoid confusion about the terms used and their meanings, a discussion on statistics is in order.

Perhaps nothing has caused as much confusion in economic thinking among laymen and professionals as the distinction between flow and stock concepts. A flow relates to a restricted period of time, usually a year, a quarter, or a month in the recording of the magnitude of an economic statistic. As the word 'flow' suggests, it reflects a positive or negative change over the period of time of the measurement. A stock concept on the other hand reflects an accumulation of past

flows at one moment rather than over a period of time. The simplest everyday illustration is that wealth is to income as stock is to flow.

In terms of foreign ownership there is a stock of foreign capital at any moment that can be viewed as the book value of previous foreign direct investment. This changes every year according to the annual flows of the components. One important flow component is the net capital inflow for direct investment; however, often both the (flow) inflow and the (stock) total accumulation of foreign direct investment are simply called foreign investment, so that it is important to know which component is being used, particularly in newspaper accounts and other less formal analyses. Another important flow component is the net change in undistributed earnings.

There are many problems and pitfalls for the unwary in unravelling foreign direct investment statistics. For example, statistics in Canadian balance of payments reports do not reflect retained earnings. Questions of defining control and separating portfolio from direct investment are also serious methodological issues.

Direct investment brings with it potential control over management, finance, technology, production, and exports. Debt investment has a definite maturity and fixed service costs, whereas direct investment is open-ended in time and return. Portfolio investment can be debt or equity, but, if equity, it should not imply or permit control. The difficulty is to distinguish between direct and portfolio investment in deciding what percentage of holdings give control. Over 50 per cent of the voting stock will give control, but much less will often do, for instance if the remaining shares are widely held. Book value may easily be a misleading indicator of gross assets controlled or market value. Because of the many accounting and conceptual problems involved in questions of analysis and policy, it is best to be careful in using the available statistics.

Since a great deal has been written about the history of foreign direct investment in Canada, only a brief outline will

be given here. Canada has tended to rely on foreign capital throughout most of its history. While initially Canada depended upon the United Kingdom for investment funds, foreign *control* of industry was not great, because the investments were often in the form of debt securities. After the first world war and until 1930, direct and portfolio investment (flows) to Canada from the United States began to grow rapidly. United States investors showed a greater preference for direct investment than British investors. There was also, during this period, a substantial amount of Canadian borrowing in the New York money market by industry and Canadian governments.

After the second world war, the book value of foreign direct investment (a stock concept) grew rapidly, as can be seen in Table 1. The expansion of portfolio investment was also rapid. As far as direct investment is concerned, the book value doubled between 1950 and 1955 and grew by another two-thirds to 1960. From 1960 to 1974 the mean annual growth rate was about 7.7 per cent. Table 1 contains not only the book value but also the annual increases in book value. For analytical purposes it is useful to separate the components which have accounted for the annual changes. In dollar terms the net capital inflow component has not advanced significantly in most years beyond the volume of annual inflows reached in the late 1960s. The component with the largest growth rate has been the (net) increase in undistributed earnings. Unless such earnings are repatriated, there is a self-perpetuating element to the accumulation of foreign direct investment.

There are many processes by which foreign ownership may grow, such as mergers and takeovers, capital inflow, Canadian borrowing for either expansion or new operations, and the growth of an existing foreign firm. This does not exhaust the realm of possibilities; capital can flow in through manipulation of transfer prices, although this is usually used only when there are government-imposed currency restrictions. Robbins and Stobaugh (1973, 49-50) have noted the role of non-financial items in acquiring foreign ownership and control: 'In the early 1950s for example, a U.S. firm could acquire half

TABLE 1: Book value of foreign direct investment in Canada and sources of annual changes ($ millions)

Year	Book value at year end	(Net annual) Increase in book value	(Net) Capital inflow	(Net) increase in undistributed earnings	Other* factor
1946	2,826	113	40	120	-47
1950	3,975	389	225	150	14
1955	7,728	964	445	335	184
1960	12,872	966	670	280	16
1961	13,737	865	560	240	65
1962	14,660	923	505	325	93
1963	15,502	842	280	435	127
1964	15,961	459	270	480	-291+
1965	17,356	1,395	535	735	125
1966	19,008	1,652	790	640	222
1967	20,699	1,691	691	845	155
1968	22,534	1,835	590	810	435
1969	24,434	1,890	720	1,045	125
1970	26,358	1,934	835	905	194
1971	27,918	1,560	880	1,380	-700
1972	29,534	1,606	715	1,580	-689
1973	32,884	3,360	725	2,370	265
1974	36,237	3,353	435	3,090	-172
1975	39,800				

* New issues, retirements, borrowings, investment abroad, etc. affecting the total value of foreign direct investment in Canada, and other factors, including revaluations, reclassifications, and similar accounting adjustments.

\+ See 'About the figures - Foreign direct and short-term investment in Canada, 1964, discontinuities,' *The Canadian Balance of Internationa Payments 1963, 1964 and 1965 and International Investment Position,* Cat No. 67-201

a company in Japan by furnishing the technical knowledge and management skills.'

Another view of foreign ownership and control can be seen from the Corporations and Labour Unions Returns Act (CALURA) statistics. Whereas in 1974 the book value of foreign direct investment was $36.2 billion, the total Canadian assets controlled by non-financial foreign-controlled firms was reported to be $74.8 billion. Assets of similar Canadian-controlled firms totalled $135.6 billion. Table 2 illustrates some of the comparisons between Canadian-controlled (CC) and foreign-controlled (FC) firms for 1974.(1)

CAPITAL MARKET IMPERFECTIONS

Many of the arguments advanced, including those in the Watkins, Gray, and Select Committee Reports, to link foreign ownership and financial markets suggest that capital market imperfections are a major problem. These allegations seem plausible but often are insufficiently precise, not necessarily properly connected to the foreign ownership question, and not substantiated (or disproved) by statistical or empirical analysis. Furthermore, as the reports themselves indicate, foreign direct investment is a function of a number of variables of which financial market structure is only one. The role of financial markets and their interdependence with other

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1 A few other points on firm size may be useful. Caves (1974, 19) notes that since direct investment entails larger and riskier fixed costs than many alternatives, 'given the presence of lender's risk or outright imperfections of capital markets, direct investments become the province of the large firm with substantial internally generated funds.' There are many other connections between size of firm, concentration, and direct investment. Being concerned at present with financial markets, there is at least the likelihood that different sizes of firms have different costs or availability of capital. We know quite conclusively that within most categories the size of FC firms is much larger than CC firms. For example, in 1974 the *average* assets controlled by FC firms was $12.2 million, compared to only $2.4 million for a comparable group of CC firms.

TABLE 2: Characteristics of corporations by control (1974)
($ billions)

	Foreign control	Canadian control
Assets	74.8	135.6
Equity	31.8	44.9
Sales	91.1	141.6
Profits	8.9	10.0

Source: Corporations and Labour Unions Returns Act, *Report for 1974*, Part I - Corporations, Statistics Canada (61-210), January 1977.

factors must be carefully considered before any policy relevance can be determined.

Claims that capital market imperfections are a problem are to some extent easy criticisms, as difficult to disprove as to substantiate. To say, for example, that small-scale or young Canadian industrial firms are less desirable lending risks than other borrowers says nothing about the inefficiency of Canadian financial markets, even if the statement is true. The junior firm may not be willing to pay an interest rate that would compensate a lender for the greater risk he would be bearing.(2)

2 Furthermore, this problem exists for firms in the United States as well. An article in the *Wall Street Journal* (9 Nov. 1976, 1) concerning similar problems in the United States was titled 'Fledgling Firms Find Risk Capital Still Flies Far Out of Their Reach.' It was subtitled: 'They are Hit by Disinterest In the Securities Markets, Tax Changes, Red Tape.' The oft-heard suggestion that Canada has a venture capital problem can also be applied to countries without any major concern with foreign investment.

One of the most common allegations of capital market imperfections, the inability to borrow sufficient funds, must be qualified by reference to the interest rate. Risk premiums may render what is a rational loan from a lender' point of view simply an impossibly expensive loan to a borrower. Legal restrictions also restrict types and volumes of lending by many institutions.

Another difficulty in generalizing about the capital market is that the financial process requires assumptions and forecasts about the economic future, for example interest rates, and about the longer-term prospects for borrowers. For many struggling firms the future is very uncertain, and the statistics on bankruptcy and on the longevity of new companies may not be encouraging. Different lenders will have varying opinions either about lending at all or about the risk premium to be paid. Where a number of prices exist for the same good, economists are usually suspicious about inequity and inefficiency. But it is important to note the lack of experience in lending to often unique borrowers. If there are few lenders in a field, or few specializing or knowledgeable about intricate, technologically advanced, or uncertain industries, Canadian financial markets may not generate enough competition to give the lowest interest rate on loans. Ross (1975) has drawn attention to this issue with reference to a Canadian computer products firm. Canadian banks would not lend because they did not know the computer industry, whereas in New York banks had specialists even for subsections of the computer market. It may not pay Canadian banks or other lenders to acquire specialized information about new or peripheral areas of the Canadian economy. The issue of foreign control may not be raised if foreign lending simply takes the form of a loan. Nevertheless Ross suggests that Canadian financial firms may not know how to evaluate young firms and asks (ibid, 24) whether this is a failure of institutions or a lack of national willingness to take risks? He observes that while in the United States there are thousands of consequential banks, in Canada there are only a 'handful.'

How does market power enter this scenario? As with most economic questions an easy answer is not possible. An efficient market is one in which information is widely disseminated, available to all, and market prices fully reflect all available information. These prices are used to allocate resources within the economy. Even where information is freely available, monopoly power can raise the cost of transacting so that efficiency is out of reach. In reality, financial capital is sufficiently homogeneous and fungible that the issues are whether a few firms have control over a large share of total savings or wealth and whether government regulations have conferred monopoly power on certain firms for certain parts of the market.

These arguments must be refined to include some analysis of the costs of transacting. Transactions costs reduce the ability of the price mechanism to transfer resources to equalize rates of return among alternatives. Transactions costs will depend upon a large number of variables, such as the extent to which a financial institution is specialized and whether there are economies of scale.

OUTLINE OF THIS STUDY

In the following chapter various macroeconomic and microeconomic links between financial markets and foreign ownership are discussed. The third chapter uses several sources of data to illustrate differences in financial structure between foreign-controlled and Canadian-controlled firms. The fourth chapter analyses the macroeconomic factors using econometric methods. This is followed by two chapters analysing takeovers and the liquidity of Canadian financial markets. Institutional and structural issues are discussed in chapter 7, which is followed by a summary and conclusions.

Chapter 2

Financial markets and foreign ownership: some links

In the first chapter certain allegations made in Canadian official documents concerning relations between financial markets and foreign ownership were aired. In this chapter various hypothesized links between financial markets and foreign markets and foreign ownership will be explored using historical studies, studies prepared for royal commissions, and other documents and research. Cross-country comparisons are also made to illuminate the Canadian situation. The extent of foreign control in Canada is unique internationally. Unfortunately, it will not be possible to pursue all the leads developed in this chapter in the remainder of the book.

A DEVELOPMENTAL APPROACH

One approach which has been applied to the analysis of economic progress in less developed countries may have relevance for Canada. At a minimum, it would apply to the period when Canada's financial system was developing and foreign control growing. A chief architect of this view, Ronald McKinnon, asserts that one of the characteristics of the economies of less developed countries is that they are fragmented, with firms and households facing different effective prices for land, labour, capital, and output and having access to different technologies. The prices that would usually guide a free market economy do not in such cases reflect true economic scarcity. The dominant economic theory on the other hand assumes that a perfect capital market equalizes all private rates of return. Three considerations are likely to alter this conclusion: initial endowments of resources, investment opportunities, and segmented finance markets external to the firm.

These factors can lead to the fragmentation of markets. For example, small, inefficient-scale, domestic production can reflect initial endowments and imperfect capital markets if funds for an efficient-scale unit are not available to such a potential borrower.

In this view, financial markets can be repressed if interest rates do not or are not allowed to indicate relative returns and stimulate savings. Everything else being equal, higher rates are better than low rates since they encourage greater savings and encourage those who invest to discriminate more effectively among alternatives. In this view, intermediation of savings via capital markets is better than internal finance, since the marketplace has the opportunity to assess investments. As long as different groups in the economy, especially foreign versus domestic entrepreneurs, face a fragmented capital market with different costs of funds, the economy will be hindered.

McKinnon is quick to point out that the solution is not government intervention - guarantees for selected loans, lower interest rates, development assistance, and so forth. Such devices may merely make it possible for projects which are not themselves viable to be undertaken. Resort is often made to foreign capital and foreign firms in order to finance investment opportunities which would have gone unexploited because of domestic financial repression. A more appropriate response than intervention is to improve the functioning of financial markets.

McKinnon (1973, 171) takes a strong line against the use of foreign direct investment as a substitute for a liberal domestic financial structure. Within his framework there is no reason why foreign funds should be managed more rationally than domestic funds since the rates of interest used by many multinational firms may bear no relationship to the scarcity price of capital in the local economy. Extensive tariff and other protection is common for the industries of many less developed countries (and Canada). Tariffs also alter prices and incentives and are often viewed as encouraging foreign direct

investment. Yet, if an infant industry will be viable at some stage, an efficient capital market can be better than a tariff because the costs to other firms and consumers are not raised, as with a tariff. Further, McKinnon states (172) that 'distortions in factor markets cause over-use of foreign sources of finance in a way that may well have emasculated domestic entrepreneurial growth.' McKinnon cites Japan as an example of a country where the early development of an efficient financial system, together with restrictions on direct investment and the separation of the inflow of technology from the inflow of finance, led to a high rate of economic growth. In Canada's case, technology and capital have usually been inseparable in the inflow of direct investment.

The approach associated with McKinnon is useful in breaking out of the assumption of competitive markets. If commodity and capital markets were perfect and if information and technology were freely available internationally, 'foreign ownership' would cease to be an economic or political problem worthy of special note. If capital markets were perfect, international wealth owners would be indifferent between debt and equity capital. If commodity markets were perfect, multinational corporations would have no incentive to pursue *vertical* integration. If commodity markets are perfect and there is a free movement of technology, product-differentiated *horizontal* integration by multinational corporations becomes difficult to explain. If there were no restrictions on international trade, goods rather than direct investments would move.

The evolution of capital markets can be divided into two parts, the accumulation of savings and the mobilization of these funds, both having micro and macroeconomic aspects and implications. The macroeconomic side will be discussed here.

MACROECONOMIC ISSUES

The macroeconomic issues in evolving capital markets concern the ability of a developing country with a small

population to generate sufficient aggregate domestic savings and to channel them into projects with the highest marginal product. The reports on foreign ownership do not agree on the basic issue of the sufficiency of domestic savings. While the Gray Report was not concerned with the ability of Canada to generate sufficient savings, the Ontario Select Committee (1974, 1) was concerned with 'the level and adequacy of Canadian savings, especially in relation to the need for foreign capital.'

If foreign control and foreign direct investment are related to the stage of financial development, for example to the level of savings generated, it should be possible to find historical evidence from different countries which is consistent or inconsistent with this view. Unfortunately, the data required for a rigorous test of this hypothesis are only available for a few countries.

A study published by Raymond Goldsmith in 1969 attempted to assess the importance of financial factors in economic development. The questions at issue are, first, whether different countries have had similar paths of financial development and, second, whether the evolution of Canada's financial structure is in line with international experience and its dependence upon foreign capital is consistent with these historical trends. On the first point Goldsmith feels that, although financial systems differ markedly among countries, 'the existence of clearly different paths of financial development is doubtful' (40). There are regularities, according to Goldsmith, in the relative size of the financial superstructure, the share of the financial system in total assets, the role of the banking system, and other factors. Deviations from the pattern are attributed to war finance, inflation, and the extent of government participation in the ownership and management of financial institutions.

Goldsmith found that the financial superstructure - the market value of financial instruments - tends to grow more rapidly than GNP at an early stage of development but then levels off. The less developed the country, the smaller the

ratio of financial assets to GNP. This growth pattern is a result of bringing together the separate savings and investment decisions of those in different sectors and different regions of the economy, thereby in the long term increasing the consumption and investment of both the public and private sectors. The larger the size of the financial superstructure, the greater the separation between those saving and those investing.

One important distinction, which should be made here even though it verges on the microeconomic, is that the institutionalization of investment has proceeded further and more quickly for financial claims than for equity investments since many institutions (such as banks, life insurance companies, and other financial intermediaries) in Canada have restrictions on the type or amounts of equities that may be acquired. Banks are important in the financial development of a country, but their relative importance declines as new institutions develop. Goldsmith also noted that foreign financing has played a substantial role in most countries' economic development.

To compare historical performance, it is continually necessary to reduce the basic data to greater detail in order to identify the peculiarities of a country's financial development. Ideally, one would like to distinguish between events associated with the supply of and the demand for funds. Data internationally comparable over long time periods are rare. Nonetheless, Goldsmith was able to isolate a large number of statistics which are common among countries. We shall first compare general financial and developmental factors between Canada and other countries and then consider their relevance to foreign ownership and control.

Although foreign direct investment (FDI) may merely change the title to assets rather than result in new capital investment (excluding consumer durables), there is the presumption that FDI increases the capital stock. Table 3 contains shares of gross capital formation in GNP for six countries beginning in 1891. At times of sizable inflows of FDI, such as before the first world war and after the second, Canada also had large

TABLE 3: Trends in domestic gross capital formation as a share in GNP (%)

	1891-1914	1921-1939	1948-1963
Canada	22*	15	24
United States	22	18	18
Australia	14	17	27
Germany	23	13	25
Great Britain	9	9	16
Sweden	13	16	22

* 1891 to 1915

SOURCE: Goldsmith (1969, 132)

TABLE 4: Ratio of the assets of the financial system to GNP in individual countries (%)

	1880	1900	1913	1929	1938	1948	1963
Canada	43	87	96	101	155	124	149
United States	49	86	91	129	185	147	167
Australia	--	108	98	106	131	165	129
Germany	73	114	159	89	99	107	124
Great Britain	95	93	103	131	158	184	162
Sweden	89	123	136	138	161	142	148

SOURCE: Goldsmith (1969, 209)

TABLE 5: Varieties of financial institutions

	1880	1900	1910	1929	1938	1948	1963
Canada	11	11	11	13	16	17	17
United States	9	10	12	19	19	19	20
Australia	--	7	7	9	11	13	15
Germany	12	15	18	20	21	22	23
Great Britain	14	16	17	23	23	23	23
Sweden	8	12	15	18	18	20	22

SOURCE: Goldsmith (1969, 345)

demands for capital relative to GNP. In the latter period, the rebuilding of war-torn Europe caused an upward shift in the share of GNP going to capital investment in European countries, so that the huge capital requirements in Canada should seem even larger in comparison.

Table 4, illustrating the development of the process of financial intermediation in the same six developed countries from 1880 to 1963, shows the ratio of financial assets to gross national product. These figures suggest that Canada progressed in line with most of the other countries. By 1963, the Canadian ratio was above the average of the six countries represented. However, this simple analysis is slightly misleading. In 1880 Canada had the lowest ratio of the six countries. Canada and the United States lagged behind the European counties, which had developed earlier. The first and second world wars distorted the figures for a number of countries. For example, financial assets were wiped out in Germany and created in Britain. Just after the second world war - a period when FDI increased dramatically - Canada had a less developed financial system than a number of other industrialized countries including the United States, Great Britain, and Sweden. Australia had more financial assets relative to GNP in 1948 than it did fifteen years later, a period of a strong inflow of direct investment (Commonwealth Treasury, 1972, 5).

Many other statistics in Goldsmith show that the development of the financial system in Canada has been neither out of line with nor inferior to that of many other developed countries. These statistics include the external financing ratio (net non-financial issues divided by gross capital formation) of the non-financial enterprise sector (Goldsmith, 1969, 143), the issue ratios of financial institutions (191), and the net issue of deposit banks (227).

While these results are superficially satisfying, in that they should have implied the increased mobilization of domestic savings to be applied to Canadian investment opportunities rather than permitting or necessitating foreign finance,

several other factors must be considered. One is that financial assets are not all equal in this process. Many institutions are constrained to issue certain liabilities or hold particular assets which may channel resources into non-industrial or commercial sectors while leaving a gap for industrial finance. At an aggregate level, such factors may be significant. Secondly, the productivity of investment, and hence the rate of return, may vary substantially among investors. Consequently, Canadian savings may have been adequately mobilized to develop Canadian industries - but those that were subject to foreign control.

Differences between Canadian and foreign financial structures do exist.(1) For example, between 1949 and 1963 the assets of Canadian life insurance companies grew at over 4 per cent per annum, according to Goldsmith, whereas in Germany they increased by less than 2 per cent per annum and in Sweden and the United States by over 3 per cent. With more growth in the assets of life insurance companies, Canada in 1969 had fewer stockholders as a share of the population. Goldsmith notes that 10 per cent of the U.S. population owned shares in 1965, while 3 per cent owned shares in Canada (in 1959), 7 per cent in Great Britain, 6 per cent in Belgium, 7 per cent in the Netherlands (1961), and 5 per cent in Japan (1963). Such data suggest that Canadians prefer relatively more secure (and lower-yielding) assets to those that are riskier (and higher-yielding). However, these statistics do not show causation. Does the fact that Canadians invested less in equities reduce our ability to own or buy Canadian industry, or is it the effect of fewer equities being on the market because of foreign ownership?

Goldsmith draws attention to one factor to which attention has been devoted elsewhere in criticizing Canadian capital markets. Table 5 shows that Canada has had a smaller range of

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1 Differences other than the ones mentioned here can be found in Goldsmith (1969). For example, Canada has a less developed market for 'thrift' institutions. Space does not permit a full analysis of Goldsmith's interesting data.

financial institutions in operation on various dates than did a number of other countries. Canada and Australia, both countries with extensive foreign ownership, had, as late as 1963, only partially developed capital markets in the sense that financial institutions which function in other developed countries did not exist in Canada or Australia. Merchant banking or venture capital firms are examples of institutions in which Canada is alleged to be deficient. But once again, have these institutions not developed because foreign ownership has reduced the demand for their services, or has their absence encouraged foreign ownership?

In conclusion, although much in Goldsmith's book supports the view that by 1963 the Canadian financial system was well developed by international standards, there have been deficiencies in the size of the financial infrastructure relative to GNP when compared with other developed countries. Also, the structure of Canadian financial markets appears to be weighted in favour of less risky, lower-yielding assets and against equity investment - at least by comparison with other countries.

Kuznets (1955) has also examined international differences in capital formation and financing. His results support some of Goldsmith's conclusions. He accented the role of capital-exporting countries on the ground that limitations on the demand for direct investment were far less important than those on supply of resources. In his view the absorptive capacity of Canada was sufficient to employ all of the capital exports generated by the creditor countries. Kuznets also detected that the reliance on foreign sources of capital was related to the stage of development, capital imports tending to become less important as a country grows. In particular, 'in Sweden, Canada, Germany, the United States and Australia, there is a clear downward trend in the share of capital imports, pointing toward an eventual reversal of their positions from debtor to creditor nations. If data were available for the earlier decades of the nineteenth century, we would probably have found a similar process operating in some of the older European

countries' (ibid, 44). Kuznets's forecasts for Canada and Australia have not been achieved.

The Royal Commission on Canada's Economic Prospects commissioned a study by Brecher and Reisman, entitled *Canada - United States Economic Relations*, which also bears on this topic. Part of their book gives a retrospective view compatible with other historical information. They note that 'until the early 1900s, an active and extensive capital market did not exist' (118-19). Over the years since the turn of the century the ability to finance industry domestically has grown, but for various reasons Canadians have done much of their financing in the form of debt while foreign interests have acquired equity in Canadian firms or set up wholly owned subsidiaries, where, of course, Canadians cannot acquire control. Brecher and Reisman also acknowledge that Canada was linked by language, culture, and history at an early stage of industrialization with the two most developed capitalist countries - the United States and the United Kingdom - which were capital exporters with advanced technology. With this early exposure it would have been difficult for Canada to avoid a high level of foreign ownership and control.

In a recent analysis of an early period of capital inflow into Canada from the United Kingdom between 1899 and 1914, Paterson (1976) stressed a number of financial factors. Like Kuznets, he accented those that affected the sources of funds in the capital-exporting country. For instance, he observed that 'within Great Britain favourable conditions in the capital markets for the registration of new equities had to exist before the demand for capital in Canada induced new British direct investment' (25-6). Buoyant share prices and the market for equity capital facilitated this new investment. Direct investment was also facilitated by the information made available on Canadian prospects through the listing and trading of Canadian issues on British stock exchanges. While Paterson found that financial factors played a role in encouraging foreign direct investment by British firms, these firms tended to rely on the British capital market rather than finding

alternative sources of finance. In the manufacturing sector British firms in Canada were ultimately taken over because of a shortage of working capital. The composition of their financing played a part. Paterson found an excessive reliance on equity securities, while fixed-interest securities were seldom used to finance the acquisition of fixed assets. When fixed-interest securities were used for working capital and the interest payments could not be met, the liquidation of the firm was forced. This conclusion, backed up by case studies and other information, that financial factors in the lending country are important determinants of direct investment, will receive greater attention later in this study and support from an analysis of more recent Canadian and United States experience.

Another issue is the structure of Canadian savings and the ability to channel them into particular sectors. Canadians have tended to borrow abroad for long-term investments while lending abroad at short term. Naylor (1975, 21) has traced part of this tendency back to provincial financing as early as 1835, when sterling debentures were sold to shift the public debt to England to free Canadian funds for short-term investments. Naylor also noted the uses of some of these funds, quoting from an American businessman: 'the Canadian banks seem to consider those loans to be best which can be made to wheat speculators in Chicago, Minneapolis or Duluth, or the stock speculators of New York ' (108).

Although Canada may be self-sufficient in gross savings, microeconomic considerations involving the structure of financial institutions, efficiency, and economies of scale may preclude shutting the door on foreign borrowing or direct investment since short-term funds may be lent abroad and long-term capital imported. This situation has been the case in Canada and in Europe. The explanations vary from inefficient domestic markets to economies of scale in New York plus controls on capital movements from the United States.

One macroeconomic approach is to look at the accounting relationships in the national accounts and balance of payments.

The Gray Report contained a useful discussion of the situation to 1970, but a reappraisal is now needed. For one thing the world has changed since 1970, with a move to floating exchange rates and, more important, a massive structural shift in world consumption and savings patterns, with, in theory, an increase in world savings in the hands of OPEC countries. Since the portfolios of many countries in the world financial system are being rearranged, financial flows and direct and portfolio investment can be expected to alter. Secondly, in the early 1970s there were some short-run reasons to question whether the long-term structure of the Canadian balance of payments had changed. Instead of large current account deficits and a capital account surplus, Canada had moved into surplus on current account with a strong over-all balance of payments position and an upward-floating exchange rate. Some observers such as Andrew Brimmer, then of the Board of Governors of the Federal Reserve System, noted that 'Canada may no longer need sizable net inflows of capital to finance current account deficits, the question remains of the role of New York as a financial intermediary between Canadian borrowers and lenders.'(2) Since that

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2 This debate proceeded from the time when United States payments difficulties began in the early 1960s until the end of the fixed exchange rate system. At that time the United States had a deteriorating balance of payments and was lending at long term and borrowing short term. Europeans were selling securities in New York, but were also buying many of the same securities there. The United States was and is a financial intermediary to the world, but the causative factors have not been resolved (for example, inefficient European capital markets, economies of scale in New York). This debate needs to be clarified with respect to the Canadian situation, the changes since that time, and the integration of direct capital flows into the analysis. Much of the debate was in terms of fixed-interest securities, and Kindleberger (1963, 207) tended to the view that 'as a theoretical proposition which is persuasive that industrial firms are not likely to move capital more efficiently than long-term capital markets.' This assumes that interest rates reflect productivity differences. This can be questioned, however, because of the use of government policy, including taxes and capital controls, to alter interest rates as part of macroeconomic stabilization policy. In this situation there is a good or a better case for direct investment rather than for portfolio investment.

time Canada has reverted to a current account deficit and a large long-term capital inflow. Any change in the role of net direct investment will take a few more years to detect. A declining inflow of net direct investment would not mean a halt or decline in foreign ownership, or even a halt in its growth, since retained earnings and Canadian financing for these funds would still be going on. These questions will be reconsidered below using more recent data.

Finally, as noted earlier, the *Report* of the Royal Commission on Canada's Economic Prospects suggested that monetary policy, particularly a restrictive monetary policy, may be impeded by the operation of the subsidiaries of multinational firms in Canada, because they are less dependent upon security markets and bank credit. Since subsidiaries may be financed by a large number of routes, they are at a distinct advantage relative to domestic Canadian firms. The royal commission was concerned that, because of this factor, resources would not be allocated to the most desirable projects (from Canada's point of view) during periods of restrictive monetary policy. As is well known, fiscal policy loses much of its potency with a floating exchange rate regime, and monetary policy must be relied upon. This was the case at the time when the royal commission drew up its recommendations, and it is the case now. Consequently, the different effects of monetary policy on foreign and domestic firms deserve more consideration than previously.

MICROECONOMIC ASPECTS

Even assuming that a macroeconomic balance exists whereby domestic savings are sufficient for Canadian investment, there could be difficulties in channelling funds to areas where the marginal product is at a maximum. Such firm-level questions of resource allocation will now be considered.

The Gray Report's comment that financial markets are insufficiently competitive reflects the theme referred to earlier that competitive markets are necessary to allocate

capital to the most productive uses and minimize differences between domestic and foreign entrepreneurs. The history of the development of Canadian financial institutions as recorded by Neufeld (1972) and Naylor (1975) is consistent with this view. Not only was much of the financial system not competitive, but it was subject to an almost continuous series of scandals. The historical evidence of such scandals suggests that the price mechanism was not working properly to allocate resources. Naylor has compiled information showing that 'of 26 bank failures between Confederation and the First World War, at least 19 resulted in criminal charges under the Bank Act laid against directors' (133). Neufeld noted that individuals representing the holders of 26 out of 51 memberships on the Standard Stock and Mining Exchange were arrested in investigations following the 1929 crash.

The record of overt agreements to avoid competition is not an enviable one, although it must be recognized that standards were lower and the implications of the abuse of market power not well understood. The Bank of Nova Scotia had withdrawn from the Canadian Bankers' Association in 1899 'as a result of its efforts to enforce the existing spheres of influence agreements and keep the Bank of Nova Scotia out of the Western provinces' (Naylor, 1975, 77-8). The Canadian Bankers' Association also reported at its sixth annual meeting on attempts to reduce, by agreement, the maximum interest rate payable on deposits' (ibid, 89). While it goes without saying that such collusive arrangements are no longer undertaken, many of the trends reflected in Naylor's book are strikingly similar to views expressed by McKinnon as to the need for a liberal financial system to develop Canadian industry. Collusive attempts to reduce the rewards for saving were not desirable in a developing country such as Canada.

Neufeld (1972) has cited many examples of inadequate competitiveness in the development of Canadian capital markets. For example, in 1927, 60 per cent of bond underwriting was done by five dealers and one bank (509). Other evidence is contained in the 1964 *Report* of the Royal Commission on Banking

and Finance, which made some particularly damaging comments on the structure of underwriting syndicates, a matter of provincial responsibility. Indeed, a Montreal stockbroker has linked the restrictiveness of the financial community directly to the state of foreign ownership and control in Canada: 'the foreign ownership of Canadian industry and the sources of production in Canada are the direct result of the closed cartelized financial community and the cartelized banking system' (Lafferty, 1975, 30-1).

Two studies conducted for the Royal Commission on Canada's Economic Prospects shed further light on the issue of the competitiveness of the Canadian financial system. William Hood conducted a massive study of the financing of economic activity in Canada (1958), though questions concerning foreign capital per se were left to Brecher and Reisman. Hood drew attention to a number of deficiencies in the Canadian capital market. Most were microeconomic - concerned with financial institutions and their regulators - rather than macroeconomic. One of them was that a large share of Canadian savings are contractual in nature. This can be illustrated by reference to an international comparison in Table 6, which shows that Canada has one of the highest shares of savings allocated contractually. The Swedish figures reflected the introduction of a national pension fund in 1961. As a consequence of the high level of contractual savings, Canada had a low level of savings in the form of securities in the period covered. Canada shared this situation with the United Kingdom and the United States, but the differences between Canada and the other two countries are important to note. The OECD (1967, 107) suggested that this low level of savings in the form of securities reflected the advanced stage of industrial development in the United Kingdom and the United States. Over-all, the data do show that countries with lower GNP growth rates, such as Canada, the United Kingdom, the United States, and Sweden, have higher contractual savings ratios and much lower investments in securities. Once again, cause and effect are difficult to unravel.

TABLE 6: Allocation of personal savings (%)

	Cash and deposits	Contractual savings	Securities	Other
Canada (1962-70)	63	33	3	1
Belgium (1959-64)	46	20	34	0
France (1960-5)	74	4	19	3
Germany (1960-5)	54	26	20	0
Italy (1964-5)	62	11	14	13
Japan (1958-64)	67	10	18	5
Norway (1960-5)	52	26	12	10
Sweden (1960-5)	48	36	9	7
United Kingdom (1963-5)	57	57	-21	7
United States (1960-5)	70	38	2	-10

SOURCES: Shaw and Archibald (1972, 18) and OECD (1967, 108).

Hood's concern with the high level of contractual saving was that 'during the life of the contract, the individual saver has no choice as to the allocation of his funds among alternative outlets,' so that the sensitivity of the investment to differential yields and profitability is diminished (432). He noted that in many cases, such as life insurance or pensions, the contract is partially for investment management. Most savers using these services are only dimly aware of this fact. Hood also felt that many Canadian savers consider only a narrow range of assets and are ignorant of the opportunities and yields available. The small amount of savings which go into securities and other investments can be seen in the last two columns of Table 6, particularly by comparison with most of the other countries.

Hood raised the question whether the fact that firms finance investment needs from retained earnings and depreciation allowances - thereby avoiding the discipline of capital

markets - implies that these funds will be used less efficiently. Retained earnings are a major source of investment funds. They are also of relevance to policies towards foreign ownership if much of this growth occurs from the use of internally generated funds. Aside from the questions of market structure which the Foreign Investment Review Agency must examine, the efficiency of the use of retained earnings as opposed to investment via capital markets should be considered when the expansion of existing foreign firms is scrutinized.

Studies conducted in the United States by Baumol (1970) and in the United Kingdom by Little (1962) have shown surprisingly low rates of return to the ploughback of earnings within the firm. For various periods, Baumol found that the rate of return to the firm on equity capital is higher by a substantial margin than that on debt or ploughback: 'the rate of return of equity capital ranged from 14.5 to 20.8%...on ploughback...from 3.0 to 4.6%, while the rate of return on debt ranges from 4.2 to 14%' (1970, 353). Part of the difference is attributable to variations in the costs of raising funds from different sources. Equity finance requires extensive legal and registration fees as well as underwriting costs. Furthermore, a firm must disclose information which it may not otherwise be willing to do. Consequently, firms would require much higher rates of returns for investment projects which are financed by new equity. On the other hand, as Baumol noted (ibid, 355), 'the rate of return of firms relying on ploughback for their new investment is typically uncomfortably small.' In Canada much of the growth of foreign control has come from the retained earnings of existing foreign firms rather than from capital inflows, the raising of Canadian debt or almost non-existent Canadian equity. If more funds were allocated via capital markets, what would be the implications for foreign control, ownership, Canadian firms, and economic growth?

Although there is no Canadian evidence on the use of retained earnings by foreign-controlled corporations, there are some more general results. McFetridge (forthcoming) examined the hypothesis that if the marginal return on retained

earnings were below the marginal costs of using the capital market and the tax advantage of capital gains over dividends, there is a loss which can be attributed, in part, to managerial earnings' retention policies. While there is some statistical uncertainty in McFetridge's results, they do not show, for the 205 Canadian corporations examined over the period 1961-70, that the rates of return were significantly different. Having put forward the argument, Hood had stated in the conclusion of his book that 'subject to qualified reservations about monopoly control of the prices of goods and services' concern about self-financing was not warranted partly because at least some firms' capital requirements are intermediated by capital markets, thereby appraising the worth of the investment project (1958, 434). McFetridge's evidence would support Hood's view, suggesting that Canada has less to fear from this possible deficiency in capital markets than some countries with sharply different rates of return.

Hood also commented on the effects in capital markets of government operations which either reduce the effectiveness of these markets or alter the allocation of resources. The tax system favours debt over the raising of external equity funds by firms and has often favoured multinational over domestic firms (3). Ceilings at one time on the yields on certain assets prevented the market from allocating these funds on a yield basis. Restrictions on the allocation of assets of life insurance, pension funds, and other financial intermediaries have also restricted the flow of funds. Hood noted too how the Bank of Canada induced the chartered banks 'on three occasions in the postwar period to cease extending term loans to business' (ibid, 18). The effect of this would be far harsher on Canadian-controlled firms than on foreign subsidiaries operating in Canada, even though the limitation was on 'large' term loans.

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3 A number of tax advantages have occurred at various times. These have included the deductibility of interest costs to finance takeovers, opportunities to route funds through subsidiaries to lower over-all corporate taxes, and many other aspects. Some of these are mentioned later, others are included in Glassco (1956).

Hood criticized a view put forward in the 1957 *Annual Report* of the Bank of Canada that restrictive monetary policy works against the interests of small borrowers. The Bank of Canada felt that it would be 'desirable that whenever the banks find it necessary to allocate their resources in the face of excessive total demand, they should limit the rationing process to the field of large loans' (ibid, 422). Hood responded that 'any disproportionate squeezing of small borrowers might ... be attributable to the narrowing of the differentials on bank loan charges resulting from the rise of the prime rate to within one-quarter of 1 percent of the ceiling on bank charges' (ibid, 423). It should be noted that placing a ceiling on loan rates results in riskier credit being curtailed; banks were not allowed to provide the credit at the higher rates which would compensate for the risk even when such a rate could be compatible with the return on the project by the borrowing firm.

Credit rationing is a common phenomenon in loan markets; the interest rate is not allowed to allocate credit, and non-price criteria are used. These fall most heavily on smaller, typically Canadian-controlled, firms. A study of the financing of small business in Nova Scotia (Sears, 1972, 49) found that 'tight money characterized by high prime interest rates virtually required branch managers to allocate credit on a non-price basis.' This was at a period when a legal ceiling was imposed on interest rates. Sears observed 'evidence that the burden of one of these tight money periods fell particularly on small borrowers.' Over the seventeen months of the 1956-7 squeeze, 'business loans of less than $100,000 fell by six percent, while those of more than $100,000 increased by 21 percent' (ibid, 41). This does not imply prejudice or discrimination against Canadian-controlled or small firms, even though the results might be the same. Small firms are typically riskier and have less assured markets and fewer resources to fall back upon. If the price of money cannot rise to reflect the risk of these loans, it is not surprising that more of the funds would go to larger, less risky firms.

Sears reported that 'branch managers used tight money as

an excuse for getting rid of term loans and for generally tightening standards, even to the extent of rejecting credit-worthy borrowers who took up too much of their time' (1972, 45).

A study prepared for the Royal Commission on Banking and Finance by Young and Helliwell presented evidence 'consistent' with the view that 'monetary and debt policies can be expected to have a greater effect on small firms than on large' (1964, 389) for two reasons: larger firms have a wider range of alternative sources of finance, and they have greater bargaining strength in dealing with financial institutions. According to Young and Helliwell, what primarily widens or restricts the range of credit alternatives (for firms able to take advantage of U.S. financial markets) is the differential between Canadian and foreign interest rates. Large firms and multinationals, moreover, usually have better balance sheets and profitability, the possibility of guarantees, and, more important, usually a track record of successful management which made the large firm known in international capital markets. On the other hand, as Young and Helliwell note, there are many exceptions to the rule that small firms are more vulnerable to changes in credit conditions. Many small firms are financed either internally or with the resources of the owners. Chartered banks have been encouraged to help small business borrowers. Trade credit is usually extended more liberally by large firms whose financial position is less adversely affected by credit restraint. Trade credit makes it particularly difficult to assess the *net* effect of tight money on different sizes of firms.

For firms with non-resident owners, Young and Helliwell found that 'the parent-subsidiary relationship provides for the subsidiary company sources of finance equal in scope and depth to those open to a much larger independent firm.' Subsidiaries of foreign firms 'have even greater insulation, which they share to some extent with other firms controlled abroad, from credit conditions in Canada' (ibid, 393). For example, here were two comments on the effects of changes in credit conditions on firms with non-resident ownership: 'financial

policies of the parent and subsidiary companies are influenced more by the fiscal and monetary policies of the U.S. government' and 'our company is a wholly-owned subsidiary ... if we were not in this favourable position we would have found it extremely hard to finance any capital expenditures during the current government's austerity period.' Hood's arguments therefore cannot entirely allay fears that monetary policy results in a disproportionate squeezing of small borrowers, and by implication, Canadian-controlled firms.

Brecher and Reisman (1957, 126-9) list a number of tax factors encouraging United States investors to place funds in Canada, many of which have an impact on capital markets. For example, at the time they were writing the absence of a Canadian capital gains tax encouraged United States residents to form vehicles for Canadian investment in order to invest in Canadian equities. Withholding taxes in Canada discouraged U.S. investment in certain Canadian debt instruments. Canadian succession duties were blamed for forcing the sale of private business or equity portfolios to non-residents. On the other hand the dividend tax credit, absence of a capital gains tax, and other factors did offer incentives to Canadian investors to invest in Canadian equities. Further details on tax factors may be found in another study for the Royal Commission by Glassco (1956). Brecher and Reisman believed (156) that foreign control would have been less if artificial restraints on the allocation of funds were removed; if some provisions of the tax system were eliminated; if facilities for raising venture capital were improved; and if foreign-owned companies were open to Canadian financial participation.

OTHER INTERNATIONAL ASPECTS

Another aspect of financial market competition and foreign ownership is the international experience. Germany, with no concern about foreign ownership, has a very large number of financial institutions, a wide variety of which are regulated by the Federal Bank Supervisory Office. Canada has a small

number in separate industries, segmented by federal and provincial regulations which restrict the activities these institutions can engage in. The German banks are actively involved in financing industry, including the acquisition of equity. Canadian banks are severely restricted in this regard and mainly involved in loans to industry. Walter Gordon preferred the Canada Development Corporation as an alternative to financial liberalization because he did not want banks and other deposit-taking institutions to invest in equities because of the danger of concentration he associated with Germany and Japan (Pattison, 1971, 46). The danger of concentration should not be overstated if an appropriate competition policy exists. In such circumstances conflict of interest is a more serious issue.

The Australian case is an almost exact parallel with Canada. Australians have been concerned with resource extraction by multinational firms in particular and multinationals generally. They have had a high tariff wall (like Canada), and foreign banks have been restricted since the second world war. The analogy forces one to ask if more efficient financial markets would not have resulted in efficient-scale, domestically owned, mining and manufacturing firms. Although the tariff encourages small-scale, inefficient output, poor financial market organization also inhibits growth and financial intermediation, which could provide domestic, or foreign-debt, financing of efficient-scale domestic industry. Restricting foreign banks could reduce domestic control insofar as financing was forced through the facilities or retained earnings of multinational firms. Australia, like Canada, has a small number of banks and foreign bank competition could easily be a necessity to channel funds to high-risk developments. It has been alleged in Canada that a banking system presided over by only a few banks will likely lend only to relatively safe customers.

Chapter 3

Financial profiles of Canadian-controlled and foreign-controlled firms

At the outset of an exploratory study such as this lies the obvious question whether or not there are differences in financial conditions between Canadian- and foreign-controlled firms. If so, what situations could have led to them, and are they significant either statistically or economically in affecting the performance of Canadian industry or introducing a bias in favour of foreign control? If foreign-controlled and Canadian-controlled firms have similar financial structures, what does this mean for the relevance of financial factors in foreign ownership issues? There is also a question whether mature Canadian firms are similar to mature foreign-controlled firms, although smaller and younger firms could conceivably have difficulties in obtaining finance.

THE ENVIRONMENT OF SUBSIDIARIES

National boundaries form potential barriers to the mobility of goods, capital, and labour. In the case of capital flows, currency values and cost of funds will vary. Tax systems will be different as well, thereby creating further barriers. For multinational firms, these barriers may either be non-existent or enable the firms to diversify risk or increase average profits. They may be non-existent because a multinational firm routes streams of income in different currencies among affiliates in order to transfer funds and avoid the formal capital market entirely.

Operations of a foreign subsidiary in Canada are governed by many environmental concerns which are either very different from or unknown to Canadian firms. Financial transactions will

have to take into account differential rates of inflation, interest rates, and taxation practices. Operations will be governed by different business conditions, wage rates, and other factors such as tight or loose credit conditions which will affect day-to-day operations and operating risk.

In a survey of environmental risks in multinational operations around the world, Bursk et al. (1971) found that in Canada the following factors had a significant to highly significant influence: the use of different currencies, taxation practices, devaluation of currencies, and government regulation (both U.S. and Canadian). Other factors were ranked between significant and unimportant: limited reliable market and economic indices, tight credit, high credit costs, and educational levels. Risk of expropriation, political instability, and import-export controls were considered unimportant.

Financial variables, including debt-equity structure, cash flows, exchange rates, interest rates, equity prices, and so forth, are major concerns for any firm. They are central to investment decisions, but since all business activities influence the finance function it is not inappropriate to regard financial factors as central to growing corporate activity. It is not possible to present here a summary of the relevant literature of business finance - books have been written of finance in multinational firms alone - so that only a cursory view of the literature will be offered.

The literature contains two main themes on the financial structure of subsidiaries (see Naumann-Etienne, 1974, 867). One view is that subsidiaries tend to conform to capitalization norms in host countries; the other is that opportunities to minimize the cost of funds are maximized. One argument reported in Naumann-Etienne was that a multinational should carry a financial structure which represents a weighted average of corresponding ratios of each country in which it happens to be operating. This view seems to have many flaws, particularly in ignoring the importance of the U.S. capital market in evaluating and trading the stock of many multinational firms.

One reason why diffences in financial structure should be important is that foreign-controlled firms are far from average. They are usually larger, more progressive, U.S. firms. For example, Robbins and Stobaugh (1973, 10) note that 1.5 million active U.S. corporations filed tax returns in 1966, while only 3700 owned more than 50 per cent of the equity of a foreign subsidiary. However, these 3700 controlled almost 20,000 foreign subsidiaries. Consequently, it seems likely that foreign-controlled firms operating in Canada can command more resources than most domestic firms and have more options for finance, production, marketing, distribution, and so forth.

Funds can be transferred by many routes, such as credit on accounts receivable or deferring collection of accounts due. Further, the cost of funds differs markedly from country to country. A multinational can have access to less expensive funds than a domestic firm if it can borrow abroad in cheaper capital markets or if its credit rating is better, as is likely to be the case.

It can be argued that Canadian firms too can go abroad to find the lowest-cost sources of funds. Though some are able to do so, as Clark noted, the 'Euro-Canadian market is so dominated by subsidiaries of U.S. multinationals ... that issues of some extremely credit-worthy Canadian companies are often less than well received' (1976, 70). However, because exchange rates do vary, many multinationals may choose not to search for and exploit current interest rate differentials but to borrow in Canada, notwithstanding the historically higher interest rates. Doing this develops banking ties which may be useful for other purposes.

The risks of trying to minimize the cost of funds are real. Many multinationals (as well as governments and government agencies) have borrowed in strong European currencies in the last ten years at coupons less than those on U.S. or Canadian dollar issues. When these currencies appreciated relative to the Canadian dollar the effective cost of funds was much higher. For example, one firm borrowed in DM in 1969 at a cost of 7.14 per cent in DM, while the cost of U.S.-

dollar-denominated funds was 8.40 per cent - an apparent annual percentage saving of 1.26 per cent of the principal. Dawson (1973, 73) calculated that if the DM stayed at its October 1973 rate the effective cost in U.S. dollars was 13.38 percent. Since that date the DM has appreciated substantially, raising the effective interest rate still further.

Since there is little public data on the financial practices of multinationals, the extent or even existence of their cost-minimizing behaviour is not known. Krainer (1972, 1973) attempted to show that U.S. Department of Commerce data on the sources and uses of funds of U.S. direct investment enterprises in Europe illustrates that multinational firms vary the national source of debt financing according to differential costs. This was challenged by Severn (1973), who argued that the Foreign Direct Investment Program raised Eurobond interest rates in the process of shifting the financial drain away from the U.S. balance of payments. Relative interest costs were not the cause, he asserted, but a consequence.

Many differences in financial practices of multinational companies pertain to their foreign operations generally, not just to Canada. It is not obvious whether subsidiaries in Canada are operated as they would be in Europe or Latin America for example. Over the long run Canada has had less exchange rate variability vis-à-vis the U.S. dollar and more political and economic stability than other countries. If Canadian subsidiaries have financial structures which differ from general multinational practices, that would be of considerable interest and importance.

Lending by multinationals to subsidiaries occurs for reasons different from external borrowing by a domestic firm or transfers of funds within an integrated domestic firm. It often occurs in order to be able to repatriate funds later as an alternative to increasing dividend and other payments, which may give a politically unpopular view of profitability in a host country, and to provide funds which could be converted into equity at a later date. Where controls on dividend payments exist or could exist, it is easier to retrieve loans

than increase dividends for repatriation. Loan interest payments are tax-deductible, whereas dividend payments are not, and repayment of a loan does not enter into taxable income. Credit can also be transferred to or money received from a subsidiary by delaying payment of accounts, changing the price of intra-company payments, management fees, and so forth. Many of these factors are constrained by the tax authorities in both host and parent countries.

The possibility of dividend or other financial controls in many countries in which multinationals operate often causes them to try to limit their equity investments, particularly in countries with weak economies or where exchange rate variability is a factor. Partly because the equity in subsidiaries is often minimized, multinationls try to borrow extensively in local capital markets. This obtains protection for the parent devaluation. The short-term nature of this borrowing means current liabilities should be a relatively larger share of the liabilities of subsidiaries. Another reason for borrowing in local capital markets by subsidiaries is that where the financial statements of the parent and the subsidiary are not consolidated, a high debt-to-equity ratio for the subsidiary does not affect the ability of the parent company to borrow. Inventories of subsidiaries tend to be greater than those of parent companies because of a variety of problems, including the use of more traded goods than in domestic firms. These require greater transport time and delivery uncertainty. Customs delays can also be a reason for subsidiaries to carry greater inventories.

The use of retained earning presents certain economic questions, as discussed earlier. A number of reasons have been suggested why there could be a benefit to retaining earnings abroad. These include withholding taxes, tax deferrals, and transfer costs. In the Canadian case these are unlikely to be major factors. The danger of restricted capital exports to Canada from the United States for balance of payments reasons does not have a high probability in the 1970's with floating exchange rates.

In the past, only scattered empirical observations have been made on this subject since the basic data were not available. Recently, however, Statistics Canada's *Report under the Corporation and Labour Unions Returns Act* (CALURA) has begun to publish some data of relevance, and other data can be mined, although not much has been made of these sources in public as of the present. We shall look first at the CALURA statistics.

CALURA DATA

Table 7 illustrates a percentage breakdown of the source and application of funds for foreign- and Canadian-controlled

TABLE 7: Source and application of funds for foreign- and Canadian-controlled firms in 1972 (%)

	Foreign	Canadian
Source of funds		
After-tax book profits	31	33
Depreciation	21	24
Depletion and amortization	4	1
Other internal sources	9	9
Total internal	65	67
New long-term borrowing	23	28
Sale of shares	6	5
Loans from affiliates	5	2
Other external sources	1	-2
Total external	35	33
Total sources	100	100
Application of funds		
Dividends	16	13
Acquisition of land and depreciation assets	51	60
Acquisition of depletable assets	10	2
Repayment of long-term debt	5	7
Claims on affiliates	9	1
Other	9	17
Total applications	100	100

firms in 1972. These data, not publically available for other years, are derived from financial aggregates of firms with over $5 million in assets. As aggregate statistics, they may not correspond to typical firms, and differences between firms with different sources and applications of funds may wash out much of the meaningful information contained in the basic data for individual companies.

There are not many large differences in these statistics, but some minor factors may be noted. First, new long-term borrowing by Canadian-controlled (CC) firms was higher than for foreign-controlled (FC) firms in 1972. We shall see later that CC firms tend to have higher debt relative to equity than FC firms. Second, FC firms used their access to loans from affiliates more than CC firms. This is a choice of financing that does not exist for most CC firms. FC firms applied more funds to paying dividends even though their after-tax book profits were relatively lower in 1972 than were those of CC firms. FC firms used almost 10 per cent of funds to acquire claims on affiliates, whereas only 1 per cent of the funds of CC firms were applied to this purpose. This highlights the flexibility allowed to multinationals to use Canadian subsidiaries to transfer funds to other parts of the corporate structure as well as to receive funds from other corporate entities. To reiterate an important point, whereas internal sources of funds provide approximately similar percentages of total funds, CC firms did more long-term borrowing for external funds, whereas FC firms tended to acquire loans from affiliates. To give some impression of the relative costs of funds in Canada and the United States in 1972, the average yield on industrial bonds was 8.3 per cent in Canada and 7.2 per cent in the United States.

Table 8, containing a mockup of balance sheets for CC and FC companies in 1974, illustrates some of the factors mentioned above. For example, CC firms had far greater long-term indebtedness than did FC companies, and FC firms had considerably more retained earnings. Each had the same share of bank loans in total liabilities. FC firms had four times the percentage

TABLE 8: Average balance sheet composition of foreign and domestic corporations in Canada in 1974.(%)

Assets		Liability and equity	
Foreign-controlled			
		Bank loans	5
Receivables	14	Due to affiliates	8
Inventories	19	Other current	16
Other current	11	Due shareholders and affiliates	8
Net fixed assets	43		
Investments in affiliates	11	Net long-term debt	11
		Retained earnings	28
Other long-term	3	Other equity	19
		Other long-term liabilities	6
Total	101		101
Canadian-controlled			
		Bank loans	5
Receivables	8	Due to affiliates	2
Inventories	14	Other current	16
Other current	7	Due to shareholders and affiliates	6
Net fixed assets	56		
Investments in affiliates	11	Net long-term debt	33
		Retained earnings	18
Other long-term	5	Other equity	16
		Other long-term liabilities	4
Total	100		100

of current liabilities due to affiliates as CC firms, and they also had greater long-term liabilities due to shareholders and affiliates. On the asset side, FC firms had far more receivables and inventories as a share of total assets, and a smaller share of net fixed assets as a consequence.

Table 9 contains financial ratios for CC and FC firms. The current ratio is widely used as an indicator of debt-paying ability because the funds that will become available in the short run should be greater than the debts to be repaid over the same time horizon. Since there is likely to be greater leakage from funds made available through assets than from lower debts, the larger the cushion between current assets and current liabilities the better. It can be seen that this cushion is much smaller for CC companies. Because inventories vary considerably and can be incorrectly stated, the 'acid test' or 'quick' ratio is sometimes constructed to remove the influence of inventory factors from current assets. Once again, CC firms have a lower ratio. FC firms have a much higher ratio of pre-tax profit to capital employed, a much healthier debt-equity ratio, and more sales per dollar of assets. Even though FC companies had a higher level of inventories to assets, they had a lower level of inventories to sales.

Although FC and CC firms clearly differ in several important financial ratios, the current and quick ratios are less for FC firms than for U.S. industrial companies operating in the United States over roughly the same time. The current ratio in the U.S. was 2.04, and the quick ratio was 1.14.(1) In Japan, by contrast, firms are in a more tenuous financial position than CC companies in terms of the current ratio, the corresponding current and quick ratios being 1.11 and 0.85 respectively. An excess of inventories during the recession probably accounts for the relatively healthier indication

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1 There is clearly an aggregation problem to consider, both in measuring these ratios across different sizes of firms within a country and in making international comparisons.

TABLE 9: Accounting ratios for Canadian- and foreign-controlled firms (1974)

Test	Canadian-controlled firms	Foreign-controlled firms	Control of preferred firm
Current ratio	1.21	1.50	Foreign
Quick ratio acid test	0.62	0.85	"
Debt/equity ratio	0.85	0.20	"
Pre-tax profit to capital employed	0.09	0.16	"
Sales to total assets	0.69	1.15	"
Inventories to sales	0.20	0.16	"

NOTE: Current ratio is total current assets (TCA) to total current liabilities (TCL). Quick ratio acid test is the ratio of TCA less inventories to TCL. Debt/equity ratio is net long-term debt to total equity. Long-term amounts due to shareholders or affiliates have been included in equity.

SOURCE: *Corporations and Labour Unions Returns Act*, Part 1, 1974. Corporations with assets over 5 million dollars.

given by the quick ratio. In Britain, foreign subsidiary companies tend to borrow more than do domestic companies, which prefer to make greater use of internally generated funds.

Altogether, foreign-controlled firms in Canada appear to be much healthier financially than Canadian-controlled firms. Part of these differences may be due to aggregation. For example, if CC firms are more capital-intensive, one could expect the debt-equity ratios to look worse. Some light is shed on this from similar statistics for individual industrial groups, as in Table 10.

The lower ratio of debt to equity for FC than for CC firms is maintained for all but one individual industrial grouping: 'Wood industries' is the only sector where a reversal occurs. The difference, however, is less than that suggested by the 0.2 and 0.85 ratios for the totals, particularly for mining and manufacturing. These differences are attributable to the

TABLE 10: Debt/equity ratios for foreign- and Canadian-controlled firms in 1974

Industry	Foreign-controlled	Canadian-controlled
Total non-financial industries	0.20	0.85
Mining	0.17	0.23
Manufacturing	0.16	0.34
Food	0.14	0.29
Textiles	0.22	0.41
Wood Industries	0.46	0.33
Paper	0.26	0.35
Machinery	0.05	0.19
Transport equipment	0.05	0.29
Electrical products	0.09	0.20
Chemicals	0.14	0.25
Construction	0.40	1.40
Utilities	0.80	1.46
Trade	0.14	0.25

NOTE: Long-term funds due to shareholders and affiliates have been included in equity.

SOURCE: *Corporations and Labour Unions Returns Act, Report for 1973*, Statistics Canada, 1976.

process of aggregating the totals across companies and then calculating the ratios, a process that would also disguise important differences within categories of firms such as mining and manufacturing. This defect in the CALURA statistics cannot be corrected by an outsider.

Table 11 contains profit rates as a share of both equity and capital employed for non-financial industries as a whole and for individual industries. Whereas CC firms have lower profits than FC firms as a share of either total equity or capital employed, more variation appears at the level of particular industries. Canadian-controlled mining firms are more

TABLE 11: Ratios of pre-tax profit to total equity and to capital employed for foreign-and Canadian-controlled firms in 1974

Industry	Pre-tax profit to total equity		Pre-tax profit to capital employed	
	Foreign-controlled	Canadian-controlled	Foreign-controlled	Canadian-controlled
Total non-financial industries	0.21	0.17	0.16	0.09
Mining	0.17	0.26	0.13	0.19
Manufacturing	0.24	0.22	0.19	0.15
Food	0.23	0.16	0.19	0.12
Textiles	0.20	0.26	0.15	0.18
Wood Industries	0.06	0.18	0.04	0.12
Paper	0.25	0.23	0.18	0.15
Machinery	0.21	0.22	0.20	0.18
Transport equipment	0.26	0.13	0.23	0.10
Electrical	0.19	0.25	0.17	0.20
Chemicals	0.28	0.12	0.13	0.07
Construction	0.15	0.20	0.10	0.08
Utilities	0.15	0.08	0.08	0.03
Trade	0.20	0.40	0.17	0.32
Services	0.20	0.14	0.14	0.07

NOTE: Long-term funds due to shareholders and affiliates have been included in equity.

SOURCE: *Corporations and Labour Unions Returns Act, Report for 1974*, Statistics Canada, 1976.

profitable than foreign-controlled mining firms; CC manufacturing firms were closer in profitability to FC manufacturers than is suggested by the total non-financial industries data.

WILDGEN

A study for the Royal Commission on Banking and Finance by F.X. Wildgen explored the financing of small firms and the

adequacy of funds according to the size of the firm, foreign-controlled against Canadian-controlled and public versus private companies. It was found that for 1955-60, small manufacturing firms relied upon trade credit and bank loans for 31.3 per cent of total assets. Larger firms used these sources for only 11.7 per cent of their assets. The medium- to longer-term financing for smaller firms was therefore a smaller share of their assets - a situation coinciding with the complaints of many of these firms that they are unable to obtain adequate longer-term financing. As well, however, it is necessary to observe that small manufacturers are relatively less capital-intensive than large firms, so that their longer-term financing needs are somewhat less as a share of assets. Wildgen found that for small firms current assets accounted for 62.4 per cent of assets, compared to 45.1 per cent for large firms. Even so, Wildgen observed (84), 'smaller firms may, indeed, have greater difficulty than large firms in securing adequate medium- and long-term loans.' He noted a survey by the Canadian Manufacturers' Association showing that, first, the smaller the firm, the more difficulty obtaining short-term capital, second, even greater difficulties were seen in the replies of foreign- and domestically controlled firms, and third, corporations of all sizes, with the exception of foreign publicly owned companies, encounter greater difficulty in securing long-term than short-term debt (Wildgen, 88).

Wildgen speculated that smaller firms are more dependent upon short-term credit because of their narrower equity base. In the CMA survey mentioned above, almost half the private companies controlled in Canada indicated their willingness to accept equity investment from merchant banking or risk-capital institutions. Accounting ratios for different sizes of firms were compared to give some indication of the safety of investing in smaller and, typically, Canadian-controlled companies. Wildgen found that the current ratio, the quick ratio, and the safety factor which he defined as 'the ratio of total interest payments, plus net profits, to total interest payments' (Wildgen, 60) were significantly less for small firms than for

large firms both in years of recession and prosperity, for all industries and for manufacturing taken separately. He concludes that investments in small firms are less secure than those in large ones, but in general small firms still measured up reasonably well. As a rule of thumb he postulated that 'a current ratio of 2:1 and quick ratio of 1:1 are normally adequate' (62). By these standards, applied in the mid-1960s, Canadian-controlled companies as a group are now, a decade later, in poor shape, nor are foreign-controlled firms up to the standards applied in the 1960s according to recent CALURA statistics.

CANADIAN FIRMS IN THE FORTUNE 500

Each year *Fortune* magazine tabulates statistics for a large number of companies in the United States and abroad. One group includes the five hundred largest industrial corporations outside the United States; these come from thirty-two countries. The list was inaugurated over twenty years ago with one hundred companies and has gradually become more comprehensive. Nonetheless, the statistics used are not complete. Assuming that the errors and omissions are not biased in any particular way, they contain some useful comparisons between Canadian-controlled and foreign-controlled firms and between these firms and firms in other countries.

The *Fortune* statistics examined for this study were for 1975. Canada had thirty-eight of the top 500 firms, of which sixteen were foreign-controlled. Some background information is needed. 1975 was a recession year throughout most of the world. Nonetheless, the sales of the group of 500 increased, in U.S. dollars, by 8 per cent, which is slightly less than the weighted average of inflation rates in the countries concerned in that year. On a trade-weighted basis, the U.S. dollar exchange rate was only marginally altered for 1975 over 1974, although some comparisons between countries could be altered because of exchange rate movements. If financial ratios were compared there should be little distortion because

both numerator and denominator would be adjusted by the same exchange rate and inflation factors.

Eighty of the 500 companies outside the United States lost money in 1975. This was two and one-half times as many losses as there were on the list of the top 500 U.S. firms. 216 of the top 500 companies outside the United States had sales of over $1 billion, compared to 203 of the top 500 firms in the United States. Overall, the overseas firms had slightly less sales than the top 500 U.S. firms, but they had 20 per cent more employees. The assets of the overseas 500 were 14 per cent greater than for the U.S. 500, while stockholders' equity was 30 per cent less, implying that the non-U.S. companies had far more debt on their balance sheets than U.S. companies.

Table 12 illustrates several ratios calculated from the data for the 500 largest industrial corporations outside the United States. It compares those companies from Canada which were in the Fortune 'non-U.S. 500' with companies from other countries, and it compares Canadian-controlled and foreign-controlled Canadian companies with the other countries' companies. Ownership of Canadian companies was determined by the 1972 publication *Inter-Corporate Ownership*, the most recent issue available. Obviously the comparison is between large developed companies in this table and not between FC and CC firms of different average size. The information in the table should suggest differences between mature firms.

The ratio of assets to equity provides the same information as the debt/equity ratio. The higher the assets/equity ratio, the higher the debt/equity ratio. These data show once again that CC firms are far more highly leveraged than FC companies in Canada. Even among mature CC firms there is considerably more leverage than with FC ones. By international standards, CC firms have less leverage than most of the firms in the Fortune 'non-U.S. 500.'(2) This tendency is usually

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2 As a reader of the manuscript has kindly pointed out, this is curious when compared with the point made earlier that Canadians put fewer funds into equities than do citizens of other countries.

TABLE 12: Canadian industrial companies in the *Fortune* 500 (1975)

	Number of companies	Equity per employee ($000 U.S.)	Assets per employee ($000 U.S.)	Assets/ equity
Canada	38	39	75	2.28
FC	16	59	106	2.10
CC	22	27	58	2.37
Australia	7	29	61	1.98
Austria	2	11	55	4.12
Belgium	10	57	171	3.33
Denmark	4	29	90	2.84
Finland	8	15	78	5.80
France	44	26	100	8.13
Germany	72	15	54	5.63
Japan	122	16	107	8.20
Netherlands	12	13	44	3.36
Norway	6	21	83	18.36
Sweden	25	98	52	6.20

NOTE: All figures have been weighted by share of individual firms' assets in total assets of the countries' firms in the sample. Because of the weighting, the assets/ equity ratio cannot be calculated from the other information in this table.

SOURCE: *Fortune*, August 1976, 231-42.

ascribed to the fact that few equity markets outside the United States and the United Kingdom can handle large security floatations and there is a shortage of institutional investors and a lack of interest in share ownership (Stonehill and Stitzel, 1969, 92). In such countries as Germany, Japan, and Sweden banks are involved with companies not only as lenders but as shareholders. This results in highly leveraged financial

structures, as can be seen in Table 12. Stonehill and Stitzel also report that financial structures differ because attitudes to risk are dissimilar in different nations: 'Japanese and Swedish bankers do not get upset if 90 per cent of their funds have been loaned. American bankers panic'(93).

It can be seen that workers in CC firms work in conjunction with fewer assets than FC firms, and there is drastically lower equity per employee. These statistics reflect many factors - one of which is the rate of capital accumulation and technological innovation in many of Canada's competitors.

SECULAR DEVELOPMENTS IN CORPORATE FINANCIAL POSITIONS

If there is any truth to the arguments advanced by various observers (reported in chapter 2) that the financial system and the operation of monetary policy favour foreign-controlled firms, time-series data on financial ratios could reveal such a pattern. Accordingly, the debt/equity ratio and the quick ratio were gathered for fourteen industry categories for foreign-controlled and Canadian-controlled firms from 1970 to 1974, 1970 being the earliest date from which consistent information could be obtained. A longer time series from 1965 was obtained for companies reporting in *Canadian Financial Statistics*.

A number of patterns were observable. First, for all industries except transportation, construction, and services, there has been a secular downtrend in quick ratios. Ratios which would have been consistent with good performance ten years ago or more were rarely achieved in 1974. Second, lower quick ratios are observed for CC firms than for FC firms in almost all industries and time periods. Wood, paper, and electrical industries are examples where CC firms have had 'better' quick ratios. Third, some short-term cyclical patterns are observable in the longer-term declines of these series. In the early 1970s, the financial positions of many firms as measured by their quick ratios improved as the business cycle expansion gathered speed. However, when inflation accelerated from 3.2 and 5.0 per cent in 1971 and 1972

(GNE price deflector) to 9.3 and 14.3 per cent in 1973 and 1974, the quick ratio declined sharply for all industries examined. Econometric evidence pooling cross-section and time-series data found that these movements were statistically significant and related to the growth rate of the money supply around its long-term trend time as well as the upward movement of both short-term and long-term interest rates. Each statistical test made allowance for separate behaviour by each industry. In some cases, some industries' quick ratios were completely unresponsive to financial movements taking place around them. In general, however, the financial variables discussed above explained much of the over-all movement of the ratios.

On the larger question of whether foreign-controlled companies' financial positions were better managed during periods of tight monetary policy, the evidence does not suggest an asymmetry. FC and CC firms within an industry may have fared differently, but their quick ratios generally changed in the same direction, with no overwhelming pattern emerging.

Debt/equity ratios, revealed fewer patterns. One interesting case where CC and FC ratios were diverging was for manufacturing (see Table 13).

TABLE 13: Debt/equity ratios for manufacturing firms in Canada

Year	Foreign-controlled	Canadian-controlled	All
1970	0.22	0.29	0.23
1971	0.21	0.31	0.23
1972	0.19	0.34	0.22
1973	0.17	0.31	0.20
1974	0.16	0.34	0.21

SOURCE: CALURA, *Report*, various issues; *Canadian Financial Statistics*, various issues

CONCLUSIONS

In many respects, Canadian-controlled and foreign-controlled firms showed different financial structures and performance. CC firms were generally the weaker and had fewer options for raising and channelling funds than did FC firms. The financial position of most industry groupings has deteriorated in recent years for both CC and FC firms. Since all these firms will attempt to raise funds in the market or borrow from banks, it is a source of concern that CC firms are weaker. There seems little doubt from talking to lenders and borrowers that FC firms are generally better credit risks and better able to provide funds for expansion. In view of allegations that monetary policy and business and financial cycles work against CC more than FC firms, it was interesting that statistical analysis failed to reveal any such bias even though there is an over-all cyclical movement in these series.

Chapter 4

Macroeconomic financial factors

International capital flows are influenced by macroeconomic events in capital importing and exporting countries. Foreign direct investment may be openly or inadvertently encouraged by monetary, fiscal, or commercial policies. In turn, foreign direct investment will alter the balance of payments, investment, employment, and other macroeconomic factors. Many of the tools of economic policy may be weakened by extensive foreign direct investment, a point made by Walter Gordon with respect to monetary policy. It has been suggested more recently that Canadian fiscal policy could also be weakened by the U.S. treatment of Canadian taxes paid by subsidiaries. For a country with extensive foreign direct investment it is surprising that Canada does not have a better understanding of the effects either of the economy on direct investment or of direct investment on economic policy. Many studies seem to suggest implicitly that foreign and domestic investment are homogeneous in their behaviour, yet the microeconomic data reveal this to be in many cases false. This chapter explores the influence of financial variables on foreign direct investment.

As a starting point, consider the total level of foreign direct investment in Canadian capital formation. A method often used is to relate the inflow of foreign direct investment to the annual flow of new investment in the economy. The Select Committee on Economic and Cultural Nationalism (1974) in Ontario conducted this exercise and found that the ratio of the (the *inflow* of) foreign direct investment (FDI) to business gross fixed capital formation (BGFCF) had been falling from the early 1950s to 1973, their last observation. Their data purport to measure BGFCF when in fact they include the government

sector and so are total gross fixed capital formation (TGFCF). Yet the error is not real but only one of nomenclature, because capital needs in total are at issue, and the government sector should not be excluded. Column 1 of Table 14 extends this series to 1976 for the inflow of foreign direct investment. The ratio of FDI to TGFCF continued to decline thereafter, becoming negative in 1976.

TABLE 14: Components of foreign direct investment to total gross fixed capital formation (%)

Year	Inflow of foreign direct investment	Increase in retained earnings	Net increase in book value
1950	5.8	3.9	10.1
1955	6.9	5.2	15.0
1960	7.9	3.3	11.4
1965	4.1	5.6	10.6
1970	5.0	5.0	10.7
1971	4.5	6.7	7.6
1972	2.7	7.0	7.1
1973	2.8	8.7	12.4
1974	2.2	8.3	10.0
1975	1.6		
1976	-0.9		

SOURCE: *Canada's International Investment Position, 1971-1973*, Cat. No. 67-202; *Statistics Canada Daily*, various dates; *National Income and Expenditure Accounts*, Cat. No. 13-001, various issues

For a number of reasons this approach presents a distorted picture of the changing role of foreign direct investment. First, while the inflow relative to TGFCF gives an impression of the resources tranferred across the border in a given year

relative to the total resources devoted to investment in Canada, the stock of foreign direct investment grows as a consequence of other methods of financing. The Gray Report (Foreign Direct Investment in Canada, 1972, 25) showed that retained earnings were becoming a larger share of the expansion of foreign-controlled enterprises from 1946 to 1967.(1) The actual capital inflow was becoming a smaller share and Canadian capital a larger percentage. Capital consumption allowances were also supplying an increasing amount of funds.

Unfortunately, statistics other than those for the inflow of foreign direct investment are produced with a lag, so that information is not as up to date on the extent to which the increase in the volume of retained earnings has added to the book value of foreign direct investment. However, Table 14 does show that whereas the ratio of FDI to TGFCF declined fairly continuously over the last twenty years, the ratio of retained earnings to TGFCF has been increasing. This is not surprising, because of the increasing stock of FDI and the increasing average maturity of these investments. The ratio of the total annual net increase in the book value (NIBV) to the annual TGFCF is only marginally lower than it was in 1950 or 1960.

Turning to savings behaviour, Table 15 contains the ratios of gross domestic savings (GDS) to GNP and to TGFCF. As an economy grows, it can be expected to provide more of its current income for capital formation. Although domestic savings have indeed grown, the table indicates that they were not a larger share of GNP (at market prices) in 1976 than in 1950. But there is a clear cyclical element in this ratio. It should be noted in passing that these numbers are different from those appearing in the Ontario Select Committee's interim report on capital markets (1974), particularly for the early years of the 1950s. It was not possible to find statistics which agreed with those reported by the Select Committee.

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1 Because of inflation, not all retained earnings or profits are real, and their purchasing power is diminished.

TABLE 15: Ratios of gross domestic savings (GDS) to gross national product (GNP) and to total gross fixed capital formation (TGFCF)

Year	(1) GDS/GNP	(2) GDS/TGFCF
1950	23.9	1.14
1955	23.6	1.05
1960	22.6	1.03
1965	25.7	1.08
1970	20.7	0.99
1971	21.6	0.99
1972	22.5	1.04
1973	23.8	1.07
1974	25.4	1.09
1975	24.1	0.99
1976	23.4	1.00

SOURCE: *National Income and Expenditure Accounts*, Cat. No. 13-001, various issues

The second column of Table 15, containing the ratio of GDS to TGFCF, illustrates the cyclical nature of this ratio and suggests that as a technique of analysis the calculation of such a ratio leaves much to be desired. For example, even in earlier periods, when, one supposes, FDI played a larger role in adding to the output-raising potential of our limited domestic savings, gross domestic savings were often greater than TGFCF. Furthermore, since both GDS and TGFCF are a function of the same macroeconomic variables the ratio can contain little information. It does not say anything about the adequacy of savings, because there is no way to define adequacy without reference to many other factors. For example, a level of FDI adequate for an unemployment rate of 7 per cent would not be sufficient to generate output and expenditure consistent with a

4 per cent rate. Nor do such ratios or statistics take into account the costs and benefits of different levels of DSI in the presence of different levels of GDS. Finally, these indicators cannot indicate any of the problems arising from microeconomic effects of gaps or distortions in capital markets, which could include taxes, the preponderance of contractual savings, the regulation of financial markets, and so forth.

Another indicator of the adequacy of domestic savings is the current account of the balance of payments.(2) Conventionally defined as the sum of the balances on goods, services, and unilateral transfer payments, it differs somewhat from country to country. It shows whether a country is living within its income and the extent to which it adds to or draws upon its stock of external assets (Veil, 1974, 28). It reveals whether a country draws upon foreign savings or exports domestic savings. The transactions recorded in the current account are once-and-for-all: 'current receipts and expenditures are definitive with no prospects of a future return flow as is the case for capital movements'(ibid).

Although the balance of payments is used to indicate the "adequacy" of domestic savings, the current account balance is influenced by the growth rate, shifts in the terms of trade, monetary and fiscal policies, and many other interdependent factors. That balance shows whether foreign savings were required ex post, but does not reveal the cause.

At the time the Gray Report was published in 1972, balance of payments statistics to 1970 were used, showing an improving situtation and a current account surplus in 1970 which resulted in the floating of the Canadian dollar. The Report was optimistic that 'even assuming a deficit of $1 billion to $1.5 billion, foreign direct investment would not be essential to offset such a deficit because other means of strengthening the capital account would be available.' The surplus of 1970 was

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2 This is an ex post concept and, as mentioned in the text, cannot be uniquely defined without reference to other aspects of the economy, such as the growth rate and the unemployment rate.

cut in half in 1971 and deteriorated to a $5 billion current account deficit in 1975 and $4.3 billion in 1976. The improvements observed in the Gray Report were partly cyclical and partly related to the deterioration of U.S. price competitiveness because of the Vietnam war. Table 16, updating Table 12 of the Gray Report, shows that since 1973 the current account deficit has deteriorated while there has been a net *outflow of* foreign direct investment each year. As Gray noted, there was no compelling need for FDI to balance the current account.

TABLE 16: Basic structure of Canada's balance of payments ($ millions)

Year	Current account	Net direct investment inflow	Other long-term capital, net	"Basic balance"
1960	-1,233	620	309	-304
1965	-1,130	410	454	-266
1970	+1,106	590	417	2,113
1971	431	695	-31	1,095
1972	-386	220	1,368	1,202
1973	96	-35	420	481
1974	-1,492	-50	921	-621
1975	-4,965	-20	4,126	-859
1976	-4,329	-950	8,498	3,219

SOURCE: *Quarterly Estimates of the Canadian Balance of International Payments*, Cat. No. 67-001, various issues

Once again, the balance of payments statistics calculated by Statistics Canada do not include retained earnings accruing to foreign long-term investment in Canada or to Canadian investment abroad. The statistics of many other countries do incorporate retained earnings, where they are reflected on the current account as an outflow or inflow of dividends and credited to the capital account as a change in the stock of long-term capital.

ECONOMETRIC EXPLANATIONS OF DIRECT INVESTMENT IN CANADA

Officer (1968) attempted to explain the flow of direct investment into Canada during the period of the fluctuating exchange rate from 1951 to 1962. His dependent variable was total direct investment for all purposes (the financing of fixed capital formation, imports of investment goods, takeovers, and day-to-day operational funds). The variable was net, taking into account the outflow of direct investment in Canada. For our purposes, looking at the *inflow* of foreign direct investment in Canada the results of Officer's work are less interesting. Officer was principally concerned with the balance of payments and the fluctuating exchange rate, which was the reason for his choice of dependent variable.

Officer explained the net flow of direct investment into Canada by the current dollar flow of new non-residential construction plus machinery and equipment expenditures, since direct investment serves to finance a significant but variable proportion of real investment in Canada. He also included an indicator of the state of the economy and an index of liquidity of firms in the United States and the United Kingdom (divided by the spot exchange rate) as an indicator of the foreign funds available for direct investment. Liquidity was defined as the sum of profits and capital consumption allowances less direct taxes. Upon estimation, all explanatory variables were of the correct sign and were statistically significant.

A study by Caves and Reuber (1971) covered the same period of the floating exchange rate as Officer but went into more detail concerning direct investment. Caves and Reuber looked at the sensitivity of capital flows to Canadian economic variables as well as concentrating on the impact of international capital flows on real investment expenditures undertaken in Canada. They found that variations in Canadian GNP explained 42 per cent of the variation in direct investment in Canada during 1951-62. They noted that 'alternative specification of the income variable, including lagged responses, and alternative demand-for-funds variables ... were all unsuccessful.'

The long-term interest rate differential between Canada and the United States seemed to play a role in the process as higher differentials encouraged more direct investment to flow to Canada, because it is cheaper for the parent firm to borrow in the United States and lend to the Canadian subsidiary. Only the differential between interest rates was significant, whereas movements in Canadian and United States' interest rates separately were not significant.

Concerned with the effect of foreign direct investment on Canadian investment spending, as Caves and Reuber stated: 'A dollar's worth of direct investment might lead to less than a dollar's worth of capital formation if the direct inflow is partly for takeovers of going firms, or if domestic entrepreneurs are thereby frightened out of investing. It might lead to more than a dollar's worth if direct investment finances capital formation together with funds from other sources such as retained earnings, or if complementary investments are made' (1971, 265). In aggregate, their best estimate was that '$1 of direct investment in a given quarter is associated with a total of $2 or more of capital formation over roughly the succeeding three quarters' (266). The influence of direct investment was strongest during business cycle upswings rather than in periods of economic weaknesses when more of the inflow was for takeovers and the amount of complementary investments stimulated by FDI was smaller. The industrial mix was also important in its influence.

Two other results from Caves and Reuber are worth stating here. First, undistributed profits plus depreciation in Canada are always significant in explaining investment in plant and equipment, and this is a better formulation than profits after tax plus depreciation. This finding accords with the 'residual funds theory' of investment behaviour where 'after certain prior claims on funds - including dividend payments - are satisfied, a firm will devote the remaining funds to capital projects' (Caves and Reuber, 149). It would seem appropriate for an analysis of foreign direct investment to use United States undistributed profits plus depreciation. This is akin

to Officer's use of an index of U.S. and U.K. corporate liquidity as a proxy for funds available for direct investment. Second, Caves and Reuber, by moving the internal funds of U.S.-controlled companies from the financial variable (undistributed profits plus depreciation in Canada) to direct investment, improved the equation explaining business investment. They concluded that 'an equation in which we segregate Canadian from United States influence as much as possible will provide a better total explanation of Canadian capital formation' (172).

On the other side of the coin, economists in other countries have used Canadian financial variables to try to explain outbound direct investment flows. For example, Kenen (1976, 7) explained the quarterly direct investment outflow from the United States using the Canadian long-term interest rate, as well as U.S. and European long-term rates, U.S. gross corporate saving, and some other variables. All these variables were highly significant in explaining U.S. direct investment abroad.

INTEREST RATES

In looking at the interest rate sensitivity of foreign direct investment, concentration on the level of and changes in the book value could easily be deceptive. This is because the effects of short-term interest rates on the direct inflow could be different from the effects on retained earnings or on domestic sources of financing for foreign subsidiaries. The effects of long-term interest rates should be similar for direct investment, retained earnings, and other domestic sources of financing.

Consider first the influence of short-term interest rates on the direct inflow of funds across the border. When Canadian interest rates rise, there will be an increase in the cost of funds for financing domestically the direct investment operations of subsidiaries relative to the cost of funds which could be raised in the United States. Consequently, the effect of higher Canadian short-term interest rates on direct

investment inflows into Canada should be positive. On the other hand, if U.S. interest rates decline, funds become relatively cheaper there, and ceteris paribus, companies should tend to borrow more in the U.S. and bring the funds across the foreign exchanges into Canada - increasing the direct inflow. Consequently, if both countries' short-term interest rates were entered into an equation, the coefficient on the Canadian short-term rate should be positive and that on the U.S. rate negative.

An interest rate pattern the reverse of the above would influence domestic sources of funds for foreign direct investment - either increased retained earnings or Canadian borrowing. The domestic finance of the expansion of FDI from borrowing from Canadian banks and issuing Canadian securities should be greater the lower are Canadian interest rates and the higher are U.S. short-term interest rates. For retained earnings, an increase in the U.S. interest rate relative to the Canadian rate makes retained earnings less expensive than U.S. sources of funds. On the other hand retained earnings are also an alternative to domestic borrowing, so that the effect of the Canadian interest rate on retained earnings has some element of indeterminacy unless the value firms place on retained earnings can be imputed. Since the cost of brokerage or under-writing retained earnings is zero and there is a spread between lending and borrowing rates, retained earnings are likely the least expensive source of funds.

In total, whether the book value (BV) or the change in the book value (ΔBV) is influenced in a particular fashion by Canadian and international interest rates depends upon the weights of the inflow, retained earnings, and domestic finance. Since the direct inflow is becoming relatively less significant in foreign investment in Canada, there is the presumption that a negative sign on the Canadian short-term interest rate ($CANINT^S$) and a positive sign on the U.S. rate ($USINT^S$) should prevail. Indeed, this is what happened (3):

$$BV = -108.44 - \underset{(0.86)}{929.80}\ CANINT^S + \underset{(4.77)}{5437.5}\ USINT^S, \qquad (1)$$
$$\bar{R}^2 = 0.85$$

$$\Delta BV = -19.75 \underset{(1.72)}{-154.11\ CANINT^S} + \underset{(5.52)}{521.03\ USINT^S}. \qquad (2)$$
$$\bar{R}^2 = 0.84$$

Leaving aside the statistical problems discussed in note 3, there is sufficient evidence to suggest that the pattern of interest rate responses is the one suggested: ceteris paribus the lower short-term Canadian interest rates are and the higher are U.S. rates, the greater will be the book value of foreign direct investment as well as the changes in the book value.

At the outset of this discussion of interest rates, it was mentioned that individual categories of direct investment components, which add up to the annual change in book value, could be expected to have different interest rate responses. The following equation illustrates the results for retained earnings (RE):

$$RE = -290.0 - \underset{(3.17)}{294.94\ CANINT^S} + \underset{(5.90)}{577.7\ USINT^S}. \qquad (3)$$
$$\bar{R}^2 = 0.77$$

The Durbin-Watson statistic was once again in the indeterminant region where it is not possible to reject the hypothesis that there is autocorrelation in the estimated equation. Nonetheless, this equation accords with the hypothesis discussed above. Similar equations for the direct inflow and 'other domestic financing' did not perform well.

For long-term interest rates, the effects on foreign direct investment will be different. With a Keynesian model of the economy the marginal efficiency of investment or capital will not change in the short run, since techniques and their productivity at any given interest rate will not change. Consequently, as the interest rate changes, the demand price for

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3 For the first equation, the Durbin-Watson statistic was such that autocorrelation did not appear to be a problem. In the second equation the Durbin-Watson statistic was in the range where the test is indecisive. If there were serial correlation in this equation, which is not unlikely, the estimated coefficients are unbiased but do not have the smallest variance.

capital goods will move. At the margin, investment will occur up to the point where the marginal efficiency of investment is equal to the interest rate. Consequently, the long-term interest rate should at any given point of time reflect the productivity of investment. Hence, a higher long-term Canadian interest rate would reflect greater productivity from investment in Canada and a higher U.S. rate a higher productivity in the United States. Thus the signs on the long-term interest rate coefficients should be consistently positive in Canada ($CANINT^L$) and negative in the United States ($USINT^L$).

By and large, long-term interest rates did not play a significant role, especially in comparison to short-term rates. Few equations produced statistically significant results. In total, the signs were often correct, such as (where EXRT is the US/Canadian dollar exchange rate):

$$\Delta BV = 1193.4 - 21.89\ EXRT + 516.02\ CANINT^L - 166.10\ USINT^L. \quad (4)$$
$$(1.32) \qquad (1.57) \qquad (0.48) \qquad \bar{R}^2 = 0.75$$

This was also true of equations for individual components, although equations for 'other domestic financing' (OTR) indicated correct significant signs and no autocorrelation:

$$OTR = -243.75 + 457.61\ CANINT^L - 514.58\ USINT^L. \quad (5)$$
$$(2.54) \qquad (2.70) \qquad \bar{R}^2 = 0.20$$

It can be seen that this equation did not explain much of the variance in the dependent variable. Nonetheless, the general pattern of interest rate sensitivities of foreign direct investment suggested at the outset has been found to be approximately valid. It is a bit surprising, however, that short-term interest rates perform so much more consistently and in a statistically significant manner, particularly for a large and important category such as retained earnings and for the totals.

EXCHANGE RATES

A strong case can be made that expectations of exchange rate movements should alter foreign direct investment decisions, especially the components. For example, should the Canadian dollar be declining, it would be best to reduce the direct inflow of funds and get the needed funds from either retained earnings or Canadian borrowing. Indeed, it would be better to repatriate earnings and borrow even more extensively in Canada. Should the Canadian dollar decline, any capital loss on the assets of the parent firm would therefore be reduced, and the Canadian currency liabilities of the subsidiary would provide a measure of protection. If more of the subsidiary's liabilities were initially obtained in foreign currency, for example through an inflow of funds from the U.S. parent or U.S. banks, they would be converted into Canadian dollars and be depreciated along with any currency devaluation.

The difference between a fixed and flexible exchange rate system could also change corporate financial behaviour. Under floating rates, which prevailed in Canada from 1950 to 1962 and from 1970 to the present, uncertainty is greater than with a fixed rate. Under the fixed-rate system as it emerged, risks were generally only in one direction, and the extent of any capital loss from market movements of the exchange rate was minuscule, particularly when contrasted with possible gains. Exchange rate risk may be a major factor depending upon the countries involved. With Canada and the United States, the exchange rate has been fairly stable as a result of a Canadian monetary policy which has had exchange rate stability as a target, often, curiously enough, under a floating rate. For the 1948-74 period used in this study, the average exchange rate was $1.02 Canadian per U.S. dollar (that is, the Canadian dollar was at a discount), and the standard deviation was 4.6 cents.

The effects of alternative exchange rate systems, the effects of movements in exchange rates, and the stability of

the principal independent variables in the presence of exchange rate factors were all examined. Exchange rate factors were never found to be significant, neither movements of the rate nor whether the rate was fixed or floating. Exchange rates had no systematic influence on the annual statistics for the book value of foreign direct investment, the annual change in the book value, the annual direct inflow, earnings retained annually, or 'other' domestic financing.

These results were surprising. An examination of the long time series (over twenty-five years) reveals prolonged periods when the perceptions of undervaluation and overvaluation were widespread. The use of annual data with its peculiarities seemed unable to prejudice the results. However, there is another point to consider. The results suggest that Canada has been for all practical purposes simply another state for many U.S. parent companies, in that exchange rate factors were not considered. Consequently, industrial organization, relative costs, and productivity, which are traditional determinants of direct investment decisions, are likely to remain paramount in the Canadian case.

Perhaps the continuing international currency turmoil will exacerbate the foreign currency exposures of parent firms and cause greater sensitivity to exchange rate factors in the future. The recent change in United States accounting standards is likely to bring greater concern for foreign currency exposure, and, in the Canadian case, the recent instability of the economy and exchange rate could also encourage more careful financial practices by parents and subsidiaries. The U.S. Financial Accounting Standards Board (1975) has unified the treatment of accounting procedures for the translation of foreign currency transactions and financial statements and forced companies to bring short-term swings in exchange rate movements to account in their books. As long as firms were able to treat their cases separately and assume that an exchange rate swing could be reversed in succeeding months, many accounting practices were misleading and hence many management actions often not optimal.

PROFITS

Profits will influence foreign direct investment both by increasing the supply of funds and by signalling the profitability of investment. Moreover, not only Canadian profits will be relevant, but U.S. corporate profits too. Both the literature and business practice sometimes suggest that expansion of the firm will continue out of earnings even if the rate of return is lowered by this process. Although it is also noted that some minimum level of dividends must be paid out to content stockholders and keep up the value of shares in order to ward off takeovers. In the case of foreign direct investment in Canada, U.S. corporate profits could find their way into Canadian direct investment simply as a matter of corporate expansion. Reuber and Roseman (1969, 172) found that it was best to separate Canadian from U.S. factors as far as possible.

On the question of profits, Caves and Reuber (1971) found that undistributed profits plus depreciation were always a better explanation of physical investment in plant and equipment than profits after tax. But they used Canadian profits only. For the change in book value of foreign direct investment over our much longer period, the following equations were estimated:

$$\Delta BV = \underset{}{388.01} + \underset{(6.92)}{.46}\ CUN - \underset{(0.67)}{0.01}\ USUN, \qquad (6)$$
$$\bar{R}^2 = 0.86$$

$$\Delta BV = \underset{}{190.89} + \underset{(3.76)}{0.28}\ CPAT + \underset{(0.01)}{0.00}\ USPAT, \qquad (7)$$
$$\bar{R}^2 = 0.85$$

where CUN, USUN, CPAT, USPAT are Canadian and U.S. undistributed profits plus depreciation and Canadian and United States profits after tax respectively. In neither equation was autocorrelation indicated. Both equations indicate that only Canadian profits are relevant, with undistributed profits being far more significant than profits after tax. This is in line with Reuber and Roseman's results.

The breakdown by components of direct investment revealed the significance of U.S. profits. For the direct investment component, only the following equation was statistically significant:

$$DI = 475.19 + 0.12\ CUN - 0.02\ USUN. \qquad (8)$$
$$\qquad\qquad (3.03) \quad (1.45) \qquad \bar{R}^2 = 0.33$$

Clearly, the lower are U.S. undistributed profits, the lower is direct investment. Unfortunately, this equation exhibited autocorrelation.

For retained earnings, the influence of U.S. profits was also very significant:

$$RE = -96.56 + 0.14\ CUN - 0.01\ USUN, \qquad (9)$$
$$\qquad\qquad (16.71) \quad (1.46) \qquad \bar{R}^2 = 0.97$$

$$RE = -80.99 + 0.32\ CPAT - 0.02\ USPAT. \qquad (10)$$
$$\qquad\qquad (12.07) \quad (2.58) \qquad \bar{R}^2 = 0.97$$

Neither equation was autocorrelated. This result is entirely consistent with the previous set of equations: if U.S. profits decline, retained earnings are raised in Canada.

No significant results emerged from equations for 'other' domestic sources of financing.

Once again, these equations illustrate the *necessity* of disaggregating foreign direct investment into its components. While U.S. profit performance was not seen to have a systematic influence on the annual change in book value, it did significantly influence the components of book value.

DIVIDENDS

U.S. dividends (USDIV) and Canadian dividends (CDIV) also exhibited markedly different influences across the components of foreign direct investment:

$$\Delta BV = -83.55 + 0.69\ CDIV + 0.03\ USDIV, \qquad (11)$$
$$\qquad\qquad (2.31) \quad (0.74) \qquad \bar{R}^2 = 0.83$$

$$DI = 93.42 - 0.22\ CDIV + 0.05\ USDIV, \qquad (12)$$
$$(1.61) \quad (2.93) \qquad \bar{R}^2 = 0.51$$

$$RE = -223.48 + 1.16\ CDV - 0.05\ USDIV. \qquad (13)$$
$$(8.29) \quad (2.64) \qquad \bar{R}^2 = 0.95$$

When Canadian dividends decline the foreign direct inflow increases, and when the U.S. dividends rise the inflow increases. This accords simply with the availability of funds. The reverse situation applies for retained earnings: if U.S. dividends decline, retained earnings rise; if Canadian dividends rise, so do retained earnings. The opposition of signs for direct investment and retained earnings results in somewhat misleading coefficients for the equation for the change in book value, because disaggregation leads to a greater influence than that suggested by the totals.

BUSINESS AND MONETARY CYCLES

Given the growth in foreign direct investment and in the economy, there is bound to be a correlation between the two. In this case correlation is likely to imply some degree of causation, since market growth will spill over into the expansion of direct investment facilities.

It is useful to look at the cyclical influences of GNP upon the various categories of direct investment. Various proxies for U.S. and Canadian business cycles were used, but no significant equations emerged. Financial cycles were found to exert more of an influence than business cycles. The financial variables used were the deviation of the logarithm of the money supply (MI) from a time trend, both for the U.S. (USMIRES) and Canada (CANMIRES). The best results occurred for direct investment, though there was also a small cyclical influence upon the annual change in the book value:

$$DI = 483.8 + 3078.6\ CMIRES - 5258.7\ USMIRES \qquad (14)$$
$$(4.07) \quad (3.48) \qquad \bar{R}^2 = 0.38$$

$$\Delta BV = 1187.2 + 6504.0\ CMIRES - 14159.0\ USMIRES \qquad (15)$$
$$\qquad\qquad (1.94) \qquad\quad (2.11) \qquad\quad \bar{R}^2 = 0.09$$

Direct investment is encouraged when the money stock is growing above trend in Canada and declining when the U.S. money stock is increasing above its trend.

CROWDING OUT

It is often asserted that macroeconomic variables are responsible for some share of our foreign ownership. Often misguided policy actions on the part of Ottawa are blamed. High interest rates hurt small (Canadian) businesses more than large (subsidiary) companies. As discussed earlier, there is some, but not extensive, evidence that this is true.

It is often asserted that large government financial requirements drive private borrowers out of the market or crowd them out of financial markets with high interest rates, so that the real growth of the private sector relative to the government sector is curtailed. This effect has been found to occur in the United States (using large econometric models as well as less sophisticated techniques). The same effect may exist in Canada. If so, it is more likely that Canadian-controlled firms will suffer rather then subsidiaries, which have many financing alternatives. It is also popularly believed that Canadian entrepreneurs can easily expand by selling control abroad when they cannot obtain financing in Canada.

This argument is implicit in many Canadian objections to foreign direct investment, yet it has never been explored systematically aside from case studies.

Although the crowding-out theory could not be examined in depth in this study, it was hoped that simple tests would show whether crowding out of private borrowers from capital markets was a problem.

A good proxy for financial crowding out is the amount of money creation (ΔM1) less the amount of the federal government's cash requirements (FCASH). This leaves out the large

provincial governments, their agencies, and other (municipal) governments with cash needs to be met, so that it understates the degree of squeeze on financial markets. It also ignores credit multipliers. On balance, however, the gap between the two series illustrates the tension between money creation and the fiscal financing needs of government. The equations illustrated that the presence of crowding out cannot be disproven. Often the smaller the difference between ΔM1 and FCASH, the greater the foreign direct investment, that is, a negative sign appeared on the coefficient. For example:

$$BV = 11460 - \underset{(3.61)}{7.04}\ (\Delta M1\text{-}FCASH), \qquad \bar{R}^2 = 0.32 \qquad (16)$$

$$DI = 438.21 - \underset{(3.20)}{0.15}\ (\Delta M1\text{-}FCASH), \qquad \bar{R}^2 = 0.26 \qquad (17)$$

$$RE = 486.66 - \underset{(2.23)}{0.34}\ (\Delta M1\text{-}FCASH). \qquad \bar{R}^2 = 0.13 \qquad (18)$$

Consequently, it seems not unlikely that the federal government's financial operations - the financing of fiscal policy crowding out private borrowers in Canadian capital markets - is partly responsible for a small element of foreign direct investment. The statistics indicate the presence of the effect, but the over-all quantitative influence is not great.

The argument has often been made in Canadian capital markets that Canada has chosen the wrong policy mix and should revert to a tight fiscal policy and an expansive monetary policy (see Cheveldayoff, 1976). Proponents of this view expect that corporate profits and liquidity would improve dramatically, partly because the Canadian dollar exchange rate would decline in the process. It has been argued that this strategy was pursued in the United States after the 1974-75 recession, strengthening American corporate balance sheets considerably while the financial position of Canadian firms continued to deteriorate.

BUSINESS FAILURES AND RISK

A foreign investment decision by a company domiciled or owned elsewhere reflects not only the normal commercial issues that influence profitability but also an element of international diversification that alters the total risk exposure of the firm. Riskiness will depend upon exchange rate changes, different cost and market structures, the possibility of favourable or unfavourable legislation that is not related to events in the home country, and so forth. The implications for the firms' risk exposure can be tempered by taxes in the two countries and altered by alternative financial structures, particularly for the risk of exchange rate movements.

Risk can be increased or decreased at alternative levels of average profitability, and its management plays an important part in foreign direct investment. Not only are industrial risks involved, such as the decision to invest as an insurance against loss of markets, but also financial risks, such as those discussed earlier. By diversifying asset portfolios internationally, investors are generally able to reduce risk at the same average rate of return or increase this rate of return at the same level of risk. Consequently, risk elements are an important determinant of international capital flows. Grubel (1968) has shown that an investor in the United States could have maintained the same variability of his return as in the U.S. stock market and increased his return from 7.5 per cent to 12.6 per cent. Even without investing in countries such as Japan, South Africa, or Australia, international diversification would have increased the average rate of return by 18.7 per cent to 8.9 per cent.

To analyse such risks within this framework demands the size of total assets held in each country, the interest rate differential, the risk differential, the covariance on the returns in each country, and the preferences for risk and certainty versus reward. Some of these factors have been incorporated elsewhere. For direct investment, the assessment of the risks is not independent of the financing strategy. In

other words the assessment of risks is one stage of the process but is related to tailoring the financing decision - to borrow at home or in the host country, to issue equity to share the risks, and so forth.

Various proxies for non-exchange rate risk were used for the two countries. For the United States, one measure of risk was the yield spread between Aaa and Baa bonds relative to the Aaa yield. As a proxy this performed very well in the predictable fashion with some of the other variables under consideration. For example, as this risk variable rose U.S. stock prices went down, while Canadian prices rose by a small amount (not significant at the 5 per cent level):

$$\frac{\Delta}{Aaa} = \underset{}{24.8} + \underset{(1.69)}{0.05\ ST^{C}} - \underset{(5.36)}{0.17\ ST^{US}}, \qquad \bar{R}^2 = 0.66 \tag{19}$$

where Δ is the yield spread between Aaa and Baa bonds, and Aaa is the yield on Aaa bonds. As the risk rose in the United States, U.S. dividends (DIV^{US}) were declining by a statistically significant margin, while those in Canada (DIV^{C}) rose, though the coefficient was not significant:

$$\frac{\Delta}{Aaa} = \underset{}{26.6} + \underset{(1.54)}{0.005\ DIV^{C}} - \underset{(3.07)}{0.001\ DIV^{US}}. \qquad \bar{R}^2 = 0.57 \tag{20}$$

These results make sense because lower dividends in the United States should be reflected in lower stock market prices and in greater yield spreads between securities of differing degrees of riskiness.

Given the close links between the U.S. and Canadian economies, it is surprising that some of the riskiness was not reflected in Canadian variables. The differences suggest that there is a diversifiable risk which can be reduced by direct investment (or portfolio investment) in Canada.

Business failures in Canada were strongly and negatively related to the U.S. risk variable. U.S. business failures were unrelated to this variable. This supports the view that direct

investments in Canada offer the opportunity to diversify risk. Not only do Canadian takeovers and Canadian investments offer an opportunity to reduce risk through diversification but the perception of the riskiness of Canada and the covariance of risks and other factors are influential as well.

Curiously, the foreign direct investment variables were consistently negatively related to U.S. risk variables:

$$\Delta BV = 284.7 - \underset{(4.15)}{98.76} \frac{\Delta}{Aaa}, \qquad (21)$$
$$\bar{R}^2 = 0.38$$

$$DI = 937.09 - \underset{(3.86)}{25.82} \frac{\Delta}{Aaa}, \qquad (22)$$
$$\bar{R}^2 = 0.35$$

$$RE = 1887.5 - \underset{(3.46)}{74.77} \frac{\Delta}{Aaa}. \qquad (23)$$
$$\bar{R}^2 = 0.30$$

If the foreign investment decision is regarded as a portfolio decision under uncertainty, the perception of Canadian risk appears to be similar to U.S. risk, that is, as U.S. financial risk increases foreign direct investment in Canada declines. There is still an element of doubt about this, whether from the effect on the supply of finance or the perception of risk.

The use of business failure statistics reflects an attempt to measure both the changing supply of businesses for sale and, to some extent, cyclical factors. However, businesses fail for many reasons and in many ways. In the United States not all businesses which are discontinued or change hands on the threat of bankruptcy or reorganization appear in the statistics on failures. The same is probably true of Canada.

In our equations, Canadian business failures (CBF) and United States business failures (USBF) had an entirely consistent influence upon foreign direct investment.

$$BV = 4939.0 + \underset{(7.86)}{12.44}\ CBF - \underset{(4.05)}{1.74}\ USBF, \qquad (24)$$
$$\bar{R}^2 = 0.70$$

$$\Delta BV = 937.33 + 0.77\ CBF - 0.14\ USBF, \quad (25)$$
$$\qquad\qquad (4.08) \quad (2.69) \qquad \bar{R}^2 = 0.37$$

$$DI = 189.78 + 0.19\ CBF - 0.01\ USBF, \quad (26)$$
$$\qquad\qquad (3.53) \quad (0.78) \qquad \bar{R}^2 = 0.33$$

$$RE = 734.81 + 0.70\ CBF - 0.16\ USBF. \quad (27)$$
$$\qquad\qquad (4.85) \quad (3.93) \qquad \bar{R}^2 = 0.48$$

Clearly, Canadian business failures increase foreign direct investment while U.S. buiness failures decrease it. The evidence suggests that the supply of firms provided by Canadian failures increases foreign investment, but failures also create new market opportunities or gaps for foreign firms to fill.

CONCLUSIONS

Although macroeconomic factors influence a major part of foreign direct investment decisions, examination of the components is usually necessary because of differences between the direct inflow, retained earnings, and finance obtained domestically. While this may seem obvious, attempts are usually made to analyse these factors in aggregate.

Interest rates were found to have a consistent influence, but rational behaviour at the level of a firm would imply changing the composition of the direct inflow in line with changing short-term interest rates in Canada and the United States. Long-term interest rates play a different role in this analysis and were less significant. Neither foreign exchange rates nor the exchange rate system were seen to influence any decisions. This lack of perception of exchange rate factors over twenty-six years suggests that for many firms Canada is more like another state than a country with a separate currency. Then too, many firms regard themselves as being in, say, manufacuturing rather than in a complex environment where international banking skills are also essentially required (see Donahue, 1976, 38).

Canadian profits and dividends were found to have a significant influence, with U.S. profits and dividend movements playing an important role as well. Once again, disaggregation was necessary to pick up the direction of the influence.

Although it was illustrated that a diversifiable risk could be reduced by having a 'portfolio' of U.S. and Canadian direct investments, U.S. direct investment in Canada appeared to relate to risk in U.S. financial markets, suggesting once again that Canadian operations may be considered offshoots of U.S. operations. Canadian business failures increased foreign direct investment, presumably by increasing the supply of firms and creating market opportunities, whereas increasing U.S. business failures depressed foreign direct investment in Canada. This is consistent with the effect of U.S. risk and the perception of Canadian subsidiaries operations discussed above.

Finally, the combination of expansionary fiscal policies in Canada relative to the capabilities of the economy to finance the public sector appear to have played a role, albeit a minor one, in encouraging foreign direct investment.

Chapter 5

Financial markets and foreign takeovers

An emotive element of the growth of foreign control in Canada has been the takeover of Canadian firms by foreign buyers - in contrast to the establishment of entirely new facilities by foreign parents. With the growth of Arab and petrodollar funds, many countries began to worry more about foreign takeovers than they had previously done as cultural and social resentment against such takeovers emerged in a larger share of the population. Many of the major oil-exporting countries lack viable private sector investment projects, much of their direct investment abroad has been motivated by factors and concerns not appreciably different from those involved in portfolio investment decisions.

One analyst has suggested that direct investment is often made in place of a portfolio investment so that the lack of credible information about company affairs can be overcome by taking control (Ragazzi, 1973, 481). In Canada, it is usually argued, the determinants of inward direct investment are often industrial rather than financial. Moreover, rather than transferring funds from a nation with a capital surplus to one with a shortfall, the funds for takeovers are often acquired in Canada itself (Croft, 1976, 1).

Some observers are concerned with foreign ownership, others with foreign control. Most policy actions have been in response to the possibility of adverse implications for Canadians of foreign control. The Foreign Investment Review Agency screens takeovers to assess their desirability, albeit crudely, leaving many questions unanswered. In Europe, not only are there governmentally imposed restrictions on takeovers but various techniques have been used by industry and bankers to regain control. In Switzerland many firms have ensured that

at least 50 per cent of their shares are in a form that can only change hands with the approval of the directors. In Germany a number of firms have altered their voting rules so that, irrespective of the holdings of a shareholder, he is entitled to vote a maximum of 5 per cent (or some other small number) of total voting rights. Foreign ownership is not discouraged, but foreign control is not possible. One company which followed this technique did not have a shareholder with more than 3 per cent of the equity but felt that such a rule was necessary to preserve the independent character of the firm. This technique was proposed in the 1960s to deal with the influx of direct investment from the United States, but was not used as widely until concern grew over petrodollar funds. In particular, its advocates propose this strategy for the economically and technologically strategic West German firms.

FINANCIAL MARKETS AND TAKEOVERS

Financial markets and takeovers are intimately connected. The market for equities will value a firm's securities above or below the replacement cost of the assets of the corporation, creating an incentive for a firm to invest further and create capital gains for shareholders on the one hand or suggesting that a firm should not expand, because it could create capital losses in the process. Stock market prices also affect the suppliers of finance to firms, not only via the new issues market but also by influencing the evaluation of the borrowing power in bond and bank loan markets. These funds could be used for takeovers or expansion.

In such cases the international aspects are straightforward. If Canadian stock market prices are low relative to those in the United States, both the desire and the ability of U.S. firms to merge with or take over Canadian firms is very much enhanced. Often the stocks of companies have been selling below their book value or replacement costs. If a firm wanted to expand into Canada it would often be cheaper to take over an existing firm, avoiding the intensification of competition caused by the entry of a new firm.

Other financial considerations enchance the prospect of foreign takeovers of Canadian firms. Lintner (1971, 107) has succinctly described one set of financial gains from merger: 'borrowing costs decline with size of firm, other things equal, even in idealized markets under uncertainty where information itself is an economic good - because of "lot size" scale economies in credit investigations and security issue costs as well as "marketability." Large firms can thus refinance debt of small independent firms at lower economic cost, resulting in a genuine capital gain through merger.' Since the probability of company failure is lower for larger companies, lenders' risk is lowered when a conglomerate merger or takeover occurs, a further financial encouragement for foreign takeovers.

Another factor to consider is more macroeconomic. The theory of finance suggests, as Lintner states: 'higher levels of general stock market prices imply either that expected future profits have been adjusted upward *or* that capitalization factors have been reduced by lower interest rates or smaller *ex ante* risk assessment' (1971, 103). Hence, monetary or fiscal policy in Canada or the United States could alter stock market prices in such a manner as to encourage foreign takeovers for financial reasons.

Before looking at some Canadian evidence, it is necessary to point out that not only do share prices influence takeovers but the probability of takeovers influences share prices. In Britain it was discovered that '15 per cent of the market value of "representative firms" was accounted for by the takeover factor' (Appleyard and Yarrow, 1975, 1248). The fact that much of Canadian industry is controlled by non-residents therefore suggests that stock market prices are lower than they otherwise would be, because the probability of takeover is reduced.

PREVIOUS STUDIES

Several studies have been conducted into the causes and determinants of foreign merger activity in Canada, but they did not cover the same periods, they used somewhat different

variables, and they came up with results that occasionally differed. It is recognized by most observers such as Reuber and Roseman (1969) and Edwards (1977) that the level of foreign acquisition activity in Canada is closely related to acquisition activity in the United States, where financial variables play an important part. Indeed, capital market factors have been found to override the level of industrial activity in influencing mergers (Lintner, 1971, 101-2).

Reuber and Roseman (1969) found considerable support for the view that general economic conditions in Canada and the United States influenced the number of foreign mergers in Canada over the period 1945-61. The macroeconomic factors responsible were business conditions in Canada, as proxied by the number of commercial failures, and the financial situation, as reflected in the supply of internally generated funds of Canadian corporations. The former had a positive effect on foreign mergers in Canada because poor business conditions and increasing failures increase the supply of Canadian firms for sale. The supply of internally generated funds in Canada was negatively related to the number of foreign mergers. The rationale for this was that as internal funds become scarcer, Canadian firms for several reasons become relatively cheaper to buy. Interest rates would be likely to rise in such circumstances, reducing the net present value of Canadian firms to both 'potential buyers of domestic firms and sellers of Canadian firms' (Reuber and Roseman, 1969, 145). Yet, according to Reuber and Roseman, since the supply of internal funds in the United States can be expected to vary independently of events in Canada, because acquiring firms are larger and less influenced by tight credit markets and liquidity shortages, foreign firms are at an advantage relative to domestic buyers and sellers of firms. The fact that business failures in Canada explain part of the number of foreign mergers is also connected to this financial situation.

In another equation Reuber and Roseman used variables which reflected conditions in both the United States and Canada to explain foreign mergers in Canada. They cited U.S. studies

showing the relationship between mergers in the United States and the level of U.S. industrial stock market prices. Canadian stock market prices were not found to have significantly influenced the number of foreign mergers over the 1945-61 period. However, they found that the difference between the level of Canadian and United States stock prices was negatively related to the number of foreign mergers. They explained this on the basis that as capital becomes more expensive in Canada relative to the U.S., stock prices decline in Canada relative to the U.S. At the same time the net present value of Canadian firms for both buyers and sellers can be expected to decline relative to the net present value to foreigners - increasing the number of mergers. They also found that the U.S. treasury bill rate, which they used as a proxy for credit conditions, was negatively related to the number of foreign mergers in Canada. The differential between Canadian and U.S. treasury bill rates and the rates separately were not statistically significant.

Reuber and Roseman found that the equations used to explain international mergers in Canada did not satisfactorily explain domestic mergers, suggesting that they had captured some of the explanatory variables which are peculiar to foreign takeovers. Canadian stock market prices explained 89 per cent of the variation in the number of domestic mergers.

A study by Edwards for the Foreign Investment Review Agency covered from 1946 to 1975, a period of observation much longer than Reuber and Roseman's, but his technique was graphical and expository rather than statistical. This makes it difficult not only to compare his results with Reuber and Roseman but also to test the significance of his findings. Edwards found that the number of mergers in the United States displayed a pattern similar to that in Canada. This corroborated the Reuber-Roseman results for a shorter and earlier period. The U.S. merger boom which occurred from 1965 to 1969 happened in Canada between 1966 and 1970. Both countries experienced a marked decline in merger activity subsequently. Edwards noted that U.S. stock market prices showed a close relationship to acquisition activity in the United States,

with stock market prices peaking in 1955, 1960, 1965, and 1968 - coinciding with peaks or plateaus in acquisitions. The same pattern follows for market declines in the U.S. but does not explain the boom in acquisitions in the late 1960's.

In Canada, Edwards reported, the peaks in stock market prices in 1951, 1955, 1965, and 1968 coincided with peaks or plateaus in the level of acquisitions. However, Canadian stock market prices explain neither the surge and decline in acquisitions in the late 1960s nor the decline in acquisitions in 1957 and 1963. In general, while peaks in stock market prices often accompany increasing mergers, they are not sufficient to cause it. Edwards did not explore the effect of differences between stock market prices in Canada and the United States. He found that 'the relationship between acquisition activity in Canada and Canadian profits after tax was not as close as in the United States' (1977, 78), and profits did not explain events in the late 1960s. The comparable variable in the Reuber-Roseman study was the supply of internally generated funds of Canadian corporations. As discussed earlier, Reuber and Roseman suggested that the relationship should be a negative one for foreign mergers. Edwards says only that it is not as close a relationship as that in the United States.

Edwards used the level and trend of industrial production as a proxy for the level of economic activity. The relationship to acquisition activity was found to be tenuous. Reuber and Roseman found that the level of Canadian unemployment was negatively related to merger activity, while the index of industrial production in manufacturing and profits per unit of manufacturing output were statistically insignificant. Both Edwards and Reuber-Roseman had conflicting results on the effect of Canadian business failures. Edwards found that 'there appears to be little, if any, relationship between acquisitions activity and either new business incorporations or business failures' (1977, 78). Reuber and Roseman found that business failures were significantly related to international mergers in Canada from 1946 to 1961. Because of the conflict between these two studies and the different periods, equations

will be re-estimated to cover the time periods of both. In addition, attempts are made below to improve the specification of some of the variables and to sharpen the hypotheses tested.

The equations used by Reuber and Roseman were re-estimated for two periods, from 1948 to 1974 and from 1948 to 1961. The latter differ from those used by Reuber and Roseman only by the omission of the first three years of their data (1) and by the fact that the stock market price series have been rebased. One of Reuber and Roseman's equations is given below for 1945-61, followed by our re-estimation for 1948-61:

Reuber-Roseman 1945-61(2)

$$N = \underset{}{41.9} - \underset{(7.5)}{2.2}\,(ST^{c} - ST^{us}) + \underset{(2.1)}{0.3}\,ST^{c} - \underset{(5.5)}{19.4}\,INT^{us} + \underset{(3.9)}{5.1}\,t - \underset{(3.5)}{8.0}\,U \quad (28)$$

$$\bar{R}^2 = 0.97$$

Re-estimation 1948-61

$$N = \underset{}{3.9} - \underset{(1.6)}{1.5}\,(ST^{c} - ST^{us}) + \underset{(1.5)}{1.3}\,ST^{c} - \underset{(1.5)}{9.7}\,INT^{us} + \underset{(0.3)}{1.2}\,t + \underset{(0.4)}{0.03}\,U \quad (29)$$

$$\bar{R}^2 = 0.89$$

where N is the number of foreign acquisitions in Canada, ST^{c}, ST^{us} are the level of stock market prices in Canada and the United States, INT^{us} is the level of short-term U.S. interest rates (ninety-day treasury bills), t is a time trend, and U is the level of unemployment.

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1 These three years were omitted because of data problems. In any event, those immediate post-war years are unlikely to exhibit the same structural relationship as the later years.

2 This equation was chosen from the many in Reuber-Roseman because of its similarity to the equations to be used in this study.

It can be seen that the stock market prices and interest rate terms have maintained their signs but lost significance, as indicated by the t-statistics below the coefficients. The time trend loses significance, and the level of unemployment not only loses its significance but changes sign. The same equation estimated over the period to 1974 gave the following results:

Re-estimation 1948-74

$$N = -37.7 - 1.4\,(ST^{c} - ST^{us}) + 2.0\,ST^{c} + 11.3\,INT^{us} - 7.7\,\iota + 0.2\,U \quad (30)$$
$$\qquad\quad (2.6) \qquad\qquad (2.5) \qquad (1.5) \qquad (1.6) \quad (1.9).$$

$$\bar{R}^2 = 0.73$$

This equation now explains less of the variation in foreign takeovers, the United States short-term interest rate coefficient, and the time trend change sign.(3)

Because variables other than for stock market prices performed poorly or inconsistently, attempts were made to respecify the equation to better capture the financial and macroeconomic factors explaining foreign takeovers. For example, Reuber and Roseman viewed the level of unemployment as their index of business activity. However, given the growth in the labour force and the changing structure of unemployment, the level or the rate of unemployment are poor indicators of the cyclical phase of the economy.

THE TAKEOVER OF CANADIAN FIRMS 1948-74

Since many of the factors affecting foreign takeovers are similar to those governing the foreign direct investment

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3 The differences between Reuber-Roseman and our re-estimations stem partly from the three years omitted, but mainly from the different data base after 1961. Apparently unpublished work for the Royal Commission on Corporate Concentration determined that with other, more reliable data, the Reuber-Roseman estimates held up quite well after 1961.

decision, the explanation of the equations will generally be restricted.

Stock market prices

Stock market prices performed well in almost all formulations. One variation was the construction of the difference between Canadian and United States stock market prices with both expressed in the same currency rather than as separate currencies. This was highly significant with the correct sign. Stock market price differentials also explain the share of total mergers that are foreign:

$$\frac{N}{Total} = .46 - \underset{(4.56)}{0.16}\ ST^{C}/ST^{US} \ . \qquad (31)$$

$$\bar{R}^2 = 0.43$$

As can be seen, the downward slope is quite significant statistically.

Dividends and profits

The use of dividends from national accounts statistics for the United States and Canada produced significant results:

$$N = -41.5 - \underset{(3.87)}{0.09}\ CDIV + \underset{(5.61)}{0.02}\ USDIV \ . \qquad (32)$$

$$\bar{R}^2 = 0.71$$

Since dividends move with stock market prices, this equation tells us that when the value of Canadian firms, in terms of lower dividends or lower stock prices, declines foreign takeovers rise. Similarly, better U.S. dividends help to finance Canadian takeovers in the same manner as higher U.S.

stock prices. The relationship is even stronger with a one-year lag:

$$N = -49.4 - \underset{(5.80)}{0.10}\ CDIV_{-1} + \underset{(8.82)}{0.02}\ USDIV_{-1} . \qquad (33)$$

$$\bar{R}^2 = 0.85$$

Profits in the United States and Canada also exert an influence similar to that for dividends.

The risk factor

It will be recalled that Reuber and Roseman found that the number of business failures in Canada (CBF) was positively related to the numbers of foreign mergers in Canada from 1945 to 1961. Our results for 1948-74 support theirs and show that foreign takeovers are negatively related to the number of U.S. business failures (USBF):

$$N = 14.4 + \underset{(5.24)}{0.05}\ CBF - \underset{(2.23)}{0.006}\ USBF . \qquad (34)$$

$$\bar{R}^2 = 0.50$$

The interpretation of these results is not as unambiguous as Reuber and Roseman suggest. They noted that business failures influence foreign mergers in many ways, increasing the supply of Canadian firms for sale and influencing demand via expectations of future economic prospects. From 1948 to 1974, business failures varied with the financial cycle rather than against it. As dividends, stock market prices, and the money supply, relative to a trend line, all rose, so did business failures. The number of failures also declined with a deterioration in dividends, stock market prices, and the detrended money stock series. What is captured, therefore, is the effect not only of failures as such but also of a cyclical phenomenon.

As argued above, the exchange rate regime would be expected to play some role in encouraging foreign takeovers. Under a floating rate regime there is more risk for a company carrying on business in many parts of the world than under fixed rates. Some of this risk can be eliminated by diversification, so that foreign takeovers could be higher under floating exchange rates. Yet neither the actual number nor the ratio of foreign to total takeovers were substantially different under fixed or floating rates. The exchange rate regime itself could not be identified with either a different average number of foreign takeovers nor a different average ratio of foreign takeovers to total takeovers. Under fixed exchange rates there was an annual average of 73.5 foreign takeovers, compared with 72.8 under floating exchange rates. The ratio of foreign takeovers to the total was 0.34 under both fixed and floating rates.

This does not help a great deal, because stock market prices and many other factors that influence mergers were changing under both systems. When the equation was controlled to hold other factors constant, it was found that under floating rates there were more foreign mergers *as a share of total mergers*. The fact that foreign mergers become a larger share of the total when the risk of exchange rate variations increases, though very significant statistically, does not account for much of the numerical variation in the time series.

Macroeconomic factors

The crowding-out phenomena that could not be disproven in the previous chapter would also encourage foreign takeovers. Once again the hypothesis is not rejected. The greater the government's financing needs relative to new money creation, the greater the number of foreign takeovers, and vice versa. The coefficients are statistically significant with the correct negative sign (the measure is the negative of crowding out). Moreover, crowding out explains not only the number of foreign takeovers but also (less well) the share of foreign takeovers in total takeovers.

Inflation in the United States and Canada also plays a role. The effect of inflation on capital movements is complex and depends intimately on the tax treatment of different types of income in the capital-exporting and capital-receiving countries. The results indicated that foreign takeovers increased when Canadian inflation $(\dot{p})_C$ declined and U.S. inflation $(\dot{p})_{US}$ rose, or vice versa:

$$N = 64.7 - \underset{(3.51)}{15.28}\ \dot{p}_C + \underset{(3.89)}{20.85}\ \dot{p}_{US} \quad . \tag{35}$$

$$\bar{R}^2 = 0.34$$

The explanations are complex. The tax, rate of return, and comparative cost elements of production are captured in this equation. In general, lower Canadian inflation rates increase foreign takeovers, as do higher rates in the United States.

Finally, cyclical macroeconomic factors themselves did not perform consistently in explaining foreign takeovers. Financial factors with a cyclical element did play a role, but numerous proxies for the business cycle, including the one tried by Reuber and Roseman, were without statistical significance.

Chapter 6

The liquidity of Canadian equity markets

The question of the depth and liquidity of Canadian equity markets has been raised in virtually every report on foreign ownership. The Gray Report stated: 'One of the factors which helps to determine the capacity of domestic capital markets to finance new issues and to engage in new issues is their ... liquidity, the capacity of markets to absorb very large orders for the purchase or sale of a security without causing a significant change in its price' (*Foreign Direct Investment in Canada*, 1972, 97). The Report suggested, without any reference to evidence or statistics, that there is adequate liquidity for medium and small blocks of capital, but pension funds, mutual funds, and other larger investors cannot buy and sell large blocks in thin Canadian markets without shaking market prices to their disadvantage.

The Ontario Select Committee Report (1974, 33) noted that 'lack of depth and liquidity ... are characteristic of the Canadian capital markets at the present time.' Lax (1974, 53) asserts (once again without evidence) that 'there is sufficient liquidity ... [for] small and medium sized blocks ... Liquidity is not as great for the larger blocks of stocks.' Two questions need to be addressed: What is liquidity, and why is it important?

Liquidity is the ability of a market to bring together sufficient buyers and sellers to trade a wide range of volumes of stocks, bonds, or other securities without a significant delay in time or affect on the price. Financial market participants need to be able to trade large and small volumes without lowering or raising the price of the asset in the process. It is not only the transitory effect of a price change in a security that is the issue. Fixed investments by

firms are financed in most cases by changing groups of investors, none of whom wishes or is able to provide his resources for the life span of the company. Market liquidity allows short-term savings to be invested and withdrawn by large numbers of investors over various periods, thereby extending short-run savings into longer-term capital investment. A lack of liquidity will raise the cost of capital and reduce the ability of Canadian entrepreneurs to raise new financing through the stock market. An illiquid market can also make the assets of portfolios, such as those of pension funds, look better than they are. With respect to the United States, *Business Week* (2 June, 1973, 59) reported that 'innumerable pension funds, which look rich on paper, would look considerably poorer if the stocks they are invested in ever had to be sold: many would even be actuarially unsound.'

Although there are questions about the liquidity of Canadian markets, there is not much evidence concerning magnitudes. The Moore committee (1970) stated that 'transactions in blocks with a value greater than $500,000 are sufficiently infrequent that the need for firms to position such blocks is limited.'(1) An article in the *Montreal Gazette* (24 November, 1975, 19) entitled 'Peculiar stock trading heightens Trizec rumours' provides an example of the effect of large trades on prices. The trading during the day began with 300 shares at $13, 300 traded at 12 1/4, 300 at 12 1/8, 15,000 shares at 12, and from this level the stock traded higher at low volumes to close at the opening price. This V-shaped pattern, as we shall see shortly, is consistent with only one analysis of block transactions and market liquidity and hence offers some useful knowledge about the Canadian market.

Liquidity is affected by the market arrangements for trading the security as well as by characteristics of both the

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1 I am advised that the observations made by the Moore committee are 'a little dated.' Financial institutions have become more equity-oriented since the late 1960s, and portfolio management has changed somewhat, placing less emphasis on a buy-and-hold philosophy and being more willing to trade.

security and the company that issues it. In the latter case, expected future profitability, risk, and expected yields on other assets can alter the price and create a less liquid market.

Canadian equity markets are sufficiently different from those in other countries that liquidity could be a problem. Some of the reasons why liquidity may be reduced in Canada are as follows:

Canadian commission rates

These have been higher than in the United States for most transactions and almost all periods. This could reduce trading volume unless the volume of transactions was unrelated to the commission rate. Although the demand to trade stocks is unlikely to be highly price-elastic, it is certainly not inelastic. Table 17 gives the percentage by which Canadian commissions exceed those in the United States for a $10 stock and various values of orders. Since fixed commission rates were eliminated in the U.S. in 1975, it is difficult to compare rates for equivalent transactions.

The listing of Canadian securities on foreign exchanges

Canadians trade Canadian securities on foreign exchanges for a number of reasons. As illustrated in Table 17, it is often cheaper to trade in New York. It is also likely that for some securities the New York market is more liquid than Toronto or Montreal. Confidentiality for large trades is also a reason. A 1967 study conducted for the Toronto Stock Exchange found that for the 101 largest listed Canadian companies, 41 per cent of the trading occurred on U.S. exchanges in 1967 (Conway, 1970, 29). This was unchanged from 1960. For thirteen large Canadian companies more than one-half of the trading was conducted in the United States in 1967.

Since the New York Stock Exchange moved to fully negotiated commissions on 1 May 1975, the Canadian exchanges and

TABLE 17: Spreads between Canadian and U.S. commissions for executing a transaction for a $10 stock (as percentages of the U.S. commissions)

Value of order ($)	1 Dec. 1970	1 Dec. 1973	1 Dec. 1974
3000	15.4	4.9	4.9
5000	4.2	17.2	17.2
10000	25.3	27.2	28.7
30000	53.2	46.9	48.7
50000	69.0	51.8	53.7
100000	22.0	27.4	28.9
200000	32.4	6.8	8.1

SOURCE: Pierre Lortie, *The Case for Fixed Commission Rates in Canada*, April 1975

securities commissions have been monitoring interlisted trades. The amount of agency business by members of the Toronto Stock Exchange carried out in U.S. markets for interlisted Canadian stocks did rise very significantly, as one would expect. The available numbers understate this shift because the activities of U.S. brokers were not reflected in the statistics, nor were over-the-counter deals in stocks not listed on U.S. markets. It is not obvious whether interlisting will have the effect of reducing the liquidity of Canadian markets generally, though it reduces the number of participants and diverts some of the trading. This is because the interlisted securities are, by their nature, likely to be very liquid.

Foreign ownership

Since much of Canadian industry is foreign-owned, these blocks of shares are not publicly traded. Consequently, there will be less trading of outstanding shares. If, as is often suggested, more foreign subsidiaries listed the shares of their subsidiaries, the market for these would also be quite thin. In general, it cannot be asserted that the market for the shares of a subsidiary will be less liquid without knowing more about the securities offered and the company. The lack of shares of subsidiaries for Canadian trading probably affects the *depth* of equity markets more than the liquidity. Depth refers to the variety and quality of the securities available for trading.

Institutional trading

As more trading tends to be conducted in large blocks by institutions, market liquidity will tend to be reduced. To some extent the market as generally conceived ceases to exist in such circumstances. For 1970 a Montreal Stock Exchange study found that 49 per cent of the value of trading was for institutions (Lortie, 1975, 96). If shares held by foreign direct investors are excluded, Canadian financial institutions held over 56 per cent of the total value of listed stock in 1973 (ibid, 32). Perhaps more interesting is the fact that, according to this study, 29 per cent of Canadian corporate stock held by financial institutions in 1973 (including pension funds) was controlled by two institutions and 44 per cent by the five largest trust companies (96). The more trade is conducted by a small number of institutions, the less liquid the markets are likely to be.

For the Toronto Stock Exchange, the statistics on trading by institutions are different from those for the Montreal Stock Exchange.(2) For the period from April 1975 to March 1976,

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2 Source: Toronto Stock Exchange Revenue and Market Analysis Study (RAMA), Notice to Members No. 1370, 17 Aug. 1976. Frances Anderson of the TSE kindly supplied these statistics.

individuals accounted for 77 per cent of orders but 49 per cent of the dollar value. Institutional investors accounted for only 14 per cent of the orders but 43 per cent of the dollar value. Trading on behalf of trust companies amounted to just over 12 per cent of the dollar value, insurance companies accounted for 6 1/2 per cent, while pension funds provided just over 3 per cent, as did mutual funds and chartered banks. Because of overlaps these percentages total more than 100.

It is also useful to know the securities in which this trading occurred. Institutions tend to concentrate their trading more than do individual investors. Almost 60 per cent of institutional trading was in the shares of the 100 most active stocks, compared to 39 per cent for individuals.

Since our concern is essentially comparative, it should be noted that institutionalization of trading has proceeded further in the United States, giving rise to concern about liquidity. In 1973, over 70 per cent of the trading on the New York Stock Exchange was institutional. *Business Week* (2 June 1973, 59) reported that in one year one bank placed $650 million in only seven stocks. This article also quotes the president of White Weld & Co.: 'there are 200 or 300 stocks today in which liquidity is impressive. But a Boston executive puts the figure at only "25 to 40."' It could well be that, for many categories of securities, liquidity is better in Canada.

The outflow of Canadian funds

There has been a tendency for Canadians to invest in foreign equities. In the ten years from 1966 to 1975 Canada had a net deficit in trade in outstanding stocks in six years, and several of the surpluses were small. In total in these ten years, there was an outflow of over $430 million in stocks, that is, Canadians were net purchasers of over $430 million of foreign equity securities. In fact these net statistics hide a very large volume of two-way trade. If we consider the choice of Canadian versus United States equities, it is useful to look

at the trade in U.S. stocks alone. Since 1969, Canadians have been selling more U.S. stocks to U.S. purchasers than they have been buying from U.S. sellers. Since 1970 (except for 1973), Canadians have been net purchasers of Canadian stocks from and to U.S. sources.

Nonetheless, there is a significant demand in Canada for U.S. equities. In 1970, Canadian mutual funds had 39 per cent of their assets in foreign securities. This development is alleged to be partly attributable to the restricted choice and lack of diversity (depth) of Canadian equities. Even different securities may not offer a choice if they share the same risks. The business cycle affects large numbers of firms in particular industries, such as mining or forestry, in roughly the same manner. In 1966, 1251 Canadian companies were listed on Canadian exchanges, but 101 of them (8 per cent) accounted for 78 per cent of the total market value of all Canadian equities. Adding another 85 companies brought the share of the market value to 88 per cent of the total (Conway, 1970, 2, 4). The market for the securities of many smaller firms must not have been very liquid.

Family holdings of securities

It has been suggested that since Canada is a young country many current listings on stock exchanges are for family firms which have gone public in the last twenty or thirty years, with the family retaining a large share of the equity. Obviously this reduces the amount of the issue that is actively traded and renders the asset less liquid.

Finally, the Ontario Select Committee Report on capital markets (1971, 33-9) stressed that by various processes the large-scale ability of firms to avoid using capital markets has reduced market liquidity. It is true, not only in Canada but in other countries as well, that retained earnings are usually the dominant source of corporate funds. Further, large diversified firms are able to perform their own banking function through careful management of receivables and liabilities.

This surely reduces the supply of equities, but it is difficult to see how these payments tell us anything about the liquidity of equities that are traded. They seem to confuse liquidity with market diversity. The Select Committee also noted the problems of foreign subsidiaries not issuing shares and doing their own financing.

SOME EVIDENCE FROM BLOCK TRADES

There are a number of methods of analysing the liquidity of equity markets. One involves looking at successive price and volume movements in order to construct an index of market liquidity over time. This method is obviously useful when looking at events, such as unfixing commission rates, which are hypothesized to alter the liquidity of the market. It has been used in the United States for the Montreal Stock Exchange. For the Montreal Stock Exchange, Saint-Pierre (1976) says 'The amplitude and level of movements permit us to state that the liquidity of the Montreal Stock Exchange is relatively weaker than that of the New York Stock Exchange. In effect, Montreal prices are relatively more sensitive to variations in volume than the New York Stock Exchange.'(3) Very sharp movements and short duration were found to occur in the liquidity of the Montreal Stock Exchange, whereas movements in the liquidity on Wall Street, which also occur very sharply, were much more limited.

A study by Close (1975) was closer to the methodology of this study but only looked at stocks that are commonly block-traded. Close examined 'large value transactions' that qualified for a commission rebate. These were trades of over $100,000 in one stock for one client within five trading days. Close divided his sample between those trades associated with 'buys' and those with 'sales.' His results are as follows

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3 Reported in *Les Taux de Courtage dans l'Industrie des Valeurs Mobiliers*, Commission des Valeurs Mobilieres. Gouvernement du Quebec, June 1976.

> For buys, days -15 to -1 indicate that prices preceding block purchases tend to be slightly higher than normal relative to the market ... Days 0 to +4 ... feature rapid price appreciation of about 1.8%, most of which occurs on day 0. From +4 to +15, the index does not drop, indicating that the price change associated with block purchases are 'permanent' in nature ... For sales, the most striking feature is the lack of any impact. Prices are relatively strong from day -15 to day -1. Then there is the drop of about 0.5% during day 0 and +1. After a seven day period of no movement, prices tend to recover and by day +15 they are slightly higher than on day -1. These results best support the substitution hypothesis. (Ibid, 51, 53)

He found that the dollar value of the trades had no effect on the price impact and that block trading tended to occur during periods of high volume of trading for the stock itself. On average, 62 per cent of the trading on day 0 was the block trade itself.

The techniques used here are closer to those of Close than to the aggregate techniques of Saint-Pierre. Because the work of Saint-Pierre for the Montreal Stock Exchange, as well as many casual observations, have suggested that liquidity could be very unstable, it was decided to examine four separate sets of block trades.(4) Each set covered periods of different market conditions in terms of volume of transactions and price movements.

Previous studies have concentrated on price effects without disaggregation to elicit the characteristics of the securities involved. Because of the extensive interlisting of Canadian securities on United States exchanges (where liquidity is alleged to be better and commission rates are negotiated) and the fact that much of Canadian industry is foreign-controlled (so that control blocks are not traded), it was

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4 The data were obtained from the daily reporting of some block trades in the *Globe and Mail Report on Business*. These data include the prices of the blocks and the volumes as well as the usual data for the daily trading of the shares. Other statistics on the companies involved were gathered from the *Financial Post* publications mentioned in the text.

thought desirable to segregate the data into interlisted and non-interlisted groups, as well as control groups. Because the amount of data needed for block trade studies is already large these further refinements resulted in some exercises being conducted selectively.

The largest data set consisted of a selection of over 600 block trades on the Toronto Stock Exchange for the April to August 1975 period. From them a subset of non-financial companies was used for most of the work reported here, although all exercises were also carried out for the complete sample. The reason for using the subset is that most of the concern with financial markets relates to the development of Canadian industry, particularly younger firms. To include financial companies in the sample would bias the results.

For some of this work, the block trade information was linked with statistics and company information from the Financial Post *Survey of Industrials* (1975), *Survey of Mines* (1975), and *Survey of Oils* (1975). Since some of the accounting information was not comparable between financial and non-financial companies, the use of the non-financial companies subset of the block trades was further warranted. The firms were additionally subdivided as to foreign versus domestic control,(5) foreign versus domestic ownership, foreign versus domestic base, as well as interlisted and non-listed. For our purpose, interlisted stocks are traded on markets in the United States as well as on the Toronto Stock Exchange.

To put the above categories in perspective, over 90 per cent of the firms in this sample which are foreign-controlled are also foreign-owned. Less than 20 per cent of those that are foreign-controlled are also foreign-based. 90 per cent of the firms which are foreign-based are also foreign-owned. 36 per cent of the firms which are foreign-owned have their shares listed on U.S. stock exchanges. Just over 10 per cent of Canadian-controlled firms in the sample are interlisted.

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5 Foreign control occurs where a foreign corporation has 50 per cent or more of voting rights or where these are held by another company which is foreign-controlled, unless evidence to the contrary exists.

PRELIMINARY OBSERVATIONS

In a competitive market, prices are determined by supply and demand. In an efficient market, prices fully reflect all the information on the good or asset at one moment. Because information is new only when it is unrelated to earlier information, successive price changes will be independent of other price changes. Consequently, changes in stock market prices will be random. For United States stock markets the evidence broadly supports this scenario. Assume that this is also true for Canada. Looking at the impact of block trades on prices on individual trading days will then, if the sample is large enough, reflect the liquidity or the ability of the market to handle varying volumes without a significant effect on price.

The task in looking at block trades is to find whether price changes reflect a change in the underlying value of the stock - the transaction is either a result of new information or itself produces new information - or on the other hand reflect the pressures of trading a (presumably) large volume of stock.

The analysis of block trades in the United States has usually separated the trades into plus ticks, minus ticks, and zero ticks, according to whether the block price is greater than, less than, or equal to the previous trade. The analysis looks particularly at the price movements during the day of the block trade and trading for a short period thereafter. It is the *pattern* of price movements as well as the magnitudes that are relevant in looking at the market impact of block transactions. If the price change is temporary, that is, it is reversed partially or wholly after the block trade, there is the presumption that the pressure of trading the block was responsible. On the other hand if the subsequent trading does not show a reversal, it is presumed that the block trade reflects a change in the underlying value of the security. It is necessary to divide the sample according to whether the block trade has moved the price up or down - the direction is considered a good indication of which side, buyer or seller, initiated the transaction.

Suppose that there is a liquidity problem, that is, there is not a large number of buyers and sellers willing to trade the security at or near the prevailing price. How does the market price reflect the liquidity cost? In the case of a trade initiated by a seller, the return must be increased to buyers not willing to take all or part of the block at the prevailing price; thus the price must fall. If the underlying value of the stock has not been changed the buyer will be able to resell later and make a capital gain. Hence a V-shaped pattern of price movements would be expected.

In the other case of a transaction initiated by a buyer, it will be necessary to raise the price of the share in order to encourage sellers. However, it is less likely that the market will perform in the same way because of a reluctance to sell short, legal restrictions, and so forth (see Kraus and Stoll, 1972, 570). Hence, an inverted V is less likely for block transactions at a price higher than in previous transactions.

In analysing this question, it is necessary to look for statistically significant measures for large numbers of block trades to determine if there are systematic influences at work. This is so not only for the obvious reason of determining if there is a general problem - since there are obviously many shares which do not have a liquid market - but also because each block trade is something of a unique event, and consequently there is great diversity in the reported data.

Because the works of St Pierre and other researchers have suggested that liquidity is either variable or unstable for Canadian equity markets, the discussion which follows will relate to two distinct periods - a poor market period in 1975 characterized by abnormally low volumes and lower prices (although price indices rose and fell during the period under consideration) and a subsequent period in 1977 marked by higher prices and volumes.

VOLUMES OF BLOCK TRADES

Consider the dollar value of the trades involved in Table 18. Both the mean and the range of the values for Canadian-controlled firms are lower than for foreign-controlled firms for a period characterized by 'poor' market conditions. However, during a better market situation the mean volumes of blocks of Canadian-controlled companies and those securities that were not interlisted were significantly greater than those for foreign-controlled companies and those firms that are interlisted.

TABLE 18: Value of block trades in the sample ($000)

	Poor market conditions			Better market conditions		
	Minimum	Maximum	Mean	Minimum	Maximum	Mean
Canadian-controlled	36	1,694	182	52	6,826	281
Foreign-controlled	55	2,415	239	57	481	154
Interlisted	54	2,415	218	53	6,826	238
Non-interlisted	36	1,694	189	52	852	257

The frequency of block trade by size grouping is also worthy of examination. For the 'poor' market conditions, only 3 per cent of block trades for Canadian-controlled firms were greater than $500,000, whereas over 11 per cent of block trades for foreign-controlled firms were in this category, according to Table 19. These data are consistent with the point made by the Moore committee that trades with a value greater than $500,000 are relatively infrequent.

TABLE 19: Frequency of block trades by value (%)

	Greater than $500,000	$500,000 - $200,000	$200,000 - $100,000	Less than $100,000
Poor market conditions				
Canadian-controlled (CC)	2.7	27.2	38.5	31.7
Foreign-controlled (FC)	11.4	23.3	36.2	29.3
Interlisted	4.5	34.2	41.4	19.8
CC	0.0	41.9	33.9	24.2
FC	10.1	24.5	51.0	14.3
Not interlisted	5.1	23.6	36.7	34.7
CC	3.5	23.9	39.5	33.3
FC	12.0	27.5	25.4	40.3
Better market conditions				
Canadian-controlled (CC)	44.7	26.6	19.7	9.0
Foreign-controlled (FC)	0.0	42.3	44.4	13.3
Interlisted	41.5	20.4	25.0	12.6
CC	50.8	18.6	19.6	11.0
FC	0.0	30.9	49.3	19.7
Not interlisted	26.2	47.2	22.6	3.9
CC	32.2	43.1	20.0	4.8
FC	0.0	65.6	34.4	0.0

However, it can also be seen in Table 19 that almost one-half (by value) of the block trades of CC companies were greater than $500,000 during a period of more robust market performance. Further, there are no great similarities between the size distributions of block trades during two distinctly different periods. On the quantity side this bears out the work of St Pierre (for the Montreal Stock Exchange) that liquidity is a highly variable characteristic of Canadian equity markets.

Superficially, there is much to suggest that, at times, Canadian financial institutions, life insurance companies, pension funds, and so on, do not have a large market for large blocks of stocks. This does not mean that for certain lower value equities the market is not liquid. For example, stocks in the $5-to-$15 range could trade in blocks from 30,000 to 10,000 shares and be within the mean figure in Table 18 for poor market conditions.

THE PRICE EFFECT

Liquidity refers as much or more to the price effect as to the size of trades. In some cases trying to sell a large volume of a relatively inactive stock can have a major depressing influence on price. In one example a block of shares in a junior mining company traded at over 30 per cent below the price of the last trade on the previous day, yet closed the day's trading at the same price as before. Such situations are rare and were dropped from our sample. However, some blocks of shares of large companies, including one that was listed on U.S. exchanges, were knocked down from 8 to 13 per cent and proceeded to recover a large amount of this decline during the remainder of the day's trading. These are expensive costs for those holding a security, either with a view to trading or requiring the funds.

Price effects of block transactions also work in the opposite direction. When a block trade is initiated by a buyer, he may be forced to pay a higher price to make it worthwhile for a seller to sell. Changes in the composition of ownership of mergers or takeovers are cases in point. For example, one interest acquired a block of Western Broadcasting A shares by offering to pay $10.50 a share - a premium of $1.50 over the pre-existing $9 a share price. Subsequently, senior officers of the firm offered $11.50 a share to ensure their control. When Canadian Pacific acquired an interest in Bethlehem Copper, several large blocks traded on 1 March 1977 at $14 a share, $1.50 over the previous close. Such cases are relatively common.

While the average prices at which all block trades were transacted were not significantly different from the previous closing prices, this average masked significant dispersions. The dispersions occurred not only for negative and positive price movements (which tend to happen for different reasons, as discussed above) but also for categories of corporate securities. For poor market conditions, a good case when considering liquidity because one often cannot significantly alter the timing of a transaction, the standard deviation of the ratio of the block price to the previous close for Canadian-controlled firms was over 3 per cent, and marginally higher for those securities that were not interlisted. For those larger, developed Canadian firms that are interlisted, the block price relative to the previous close had one-half of the dispersion of the total. Consequently, the predictability of the realizable value of selling a Canadian equity does vary, and blocks of less widely traded shares are riskier.

In Table 20, the sample has been divided according to whether the block price was above, below, or equal to the previous close, for reasons explained earlier and for two distinct periods of market behaviour. For the period characterized by poor market conditions, there are two implications to be noted. First, interlisted Canadian-controlled firms are the most predictable to trade in blocks on the Toronto Stock Exchange. Statistically, the block price was significantly closer on average to the previous close for both negative and positive price movements on the day of the trade. The standard deviation of this average ratio (not shown in table) was also very much smaller than for the other categories, again indicating a far more predictable selling price. Second, as a whole, foreign-controlled firms do not have a more liquid market. The reason could be that control shares for foreign-controlled firms are rarely traded - ceteris paribus the less trading the less liquid the market for the security. Canadian control is more often the result of large numbers of individuals (plus trust companies, etc.) owning the shares. These are more likely to be traded; hence the market is more liquid.

TABLE 20: Prices of block trades compared to previous close

	Means				
	Portion	ICC	NICC	IFC	NIFC
Poor market conditions					
Less than previous close	0.35	0.993	0.981	0.985	0.984
Equal to previous close	0.21	1.0	1.0	1.0	1.0
Greater than previous close	0.42	1.012	1.022	1.015	1.025
Better market conditions					
Less than previous close	0.31	0.982	0.974	0.986	0.991
Equal to previous close	0.32	1.0	1.0	1.0	1.0
Greater than previous close	0.37	1.042	1.017	1.012	1.005

NOTE: ICC interlisted, Canadian-controlled; NICC not interlisted, Canadian-controlled; IFC interlisted, foreign-controlled; NIFC not interlisted, foreign-controlled

During a period of better market conditions some surprising findings emerged. For positive price movements greater price increases were required to buy blocks of interlisted Canadian-controlled companies, although this ratio had a larger standard deviation than for the other categories. Although the samples were large enough for both time periods to shield the statistics from the effect of a few takeover bids or aggressive buying of blocks, one is left wondering whether these statistics merely indicate the variability of liquidity as discussed above. Nonetheless, for a period of mediocre stock market activity and price weakness, it is not surprising that the shares of Canadian-controlled firms not interlisted on U.S. markets had the greatest degree of illiquidity.

The above analysis does not show how the block trades fared on the day of trading or differentiate among the important characteristics of the companies involved.

THE INFLUENCE OF BLOCK VOLUME

On the first point an important question is the extent to which larger sizes of blocks force down the price during the day's trading: Is the relationship, as suggested, that the larger the block the lower the price at which it is traded? To get a rough answer to this question, the following equation was estimated:

$$\ln\left(\frac{\text{Block Price}}{\text{Day's High}}\right) = a_1 + a_2 \ln (\text{block volume}),$$

where a_1 is a constant and a_2 is a parameter.

Table 21 gives the estimated parameters a_2 for the influence of block volume on the price relative to the day's high. These parameters are as expected: to trade increasing sizes of blocks of Canadian-owned firms decreases the price much more than for foreign-owned firms during periods of weak market performance. Interlisted Canadian-controlled firms do better than Canadian-controlled firms generally. This is consistent with the data in Table 20. On the other hand a clear difference between foreign-controlled and Canadian-controlled firms is that, for the latter, volume has a statistically significant impact on price, whereas the statistical relationship of block price to volume is tenuous for foreign-controlled firms.

The weakest relationship, that is, the desirable case where the share price is insensitive to the volume of the block traded, existed for non-interlisted foreign-controlled firms and for all categories during a period characterized by more favourable market conditions. The former relationship is surprising because foreign control suggests that very large blocks of the stocks are not traded (to maintain control). Also, not being interlisted likely means less activity in the

TABLE 21: Influence of block volume on block price

	a2	t-statistics
Poor market conditions		
CC	-0.01003	7.1
ICC	-0.0067	2.6
NICC	-0.01063	6.6
FC	-0.00439	1.5
IFC	-0.0069	1.4
NIFC	-0.0034	0.9
Better market conditions		
CC	0.0019	0.77
ICC	0.0013	0.43
NICC	0.0056	1.18
FC	-0.0010	0.19
ICC	-0.0009	0.14
NICC	-0.0015	0.25

NOTE: see note to Table 20

stock, although of course it will all be concentrated on the Canadian exchange. Should this relationship be robust, it would suggest that liquidity has more to do with the characteristics of the firm than the characteristics of the stock market - an important distinction.

The use of company-specific variables such as capitalization, working capital, and age, for each security in the sample did not lead to substantive insights. Working capital was rarely significant, with the exception of some formulations of equations for Canadian-controlled firms. The relationship was the positive one to be expected - the higher the working capital the more liquid the market for the firm's securities.

There was a tendency for company age to improve liquidity, most noticeably for foreign-controlled companies.

LIQUIDITY OR INFORMATION CHANGES

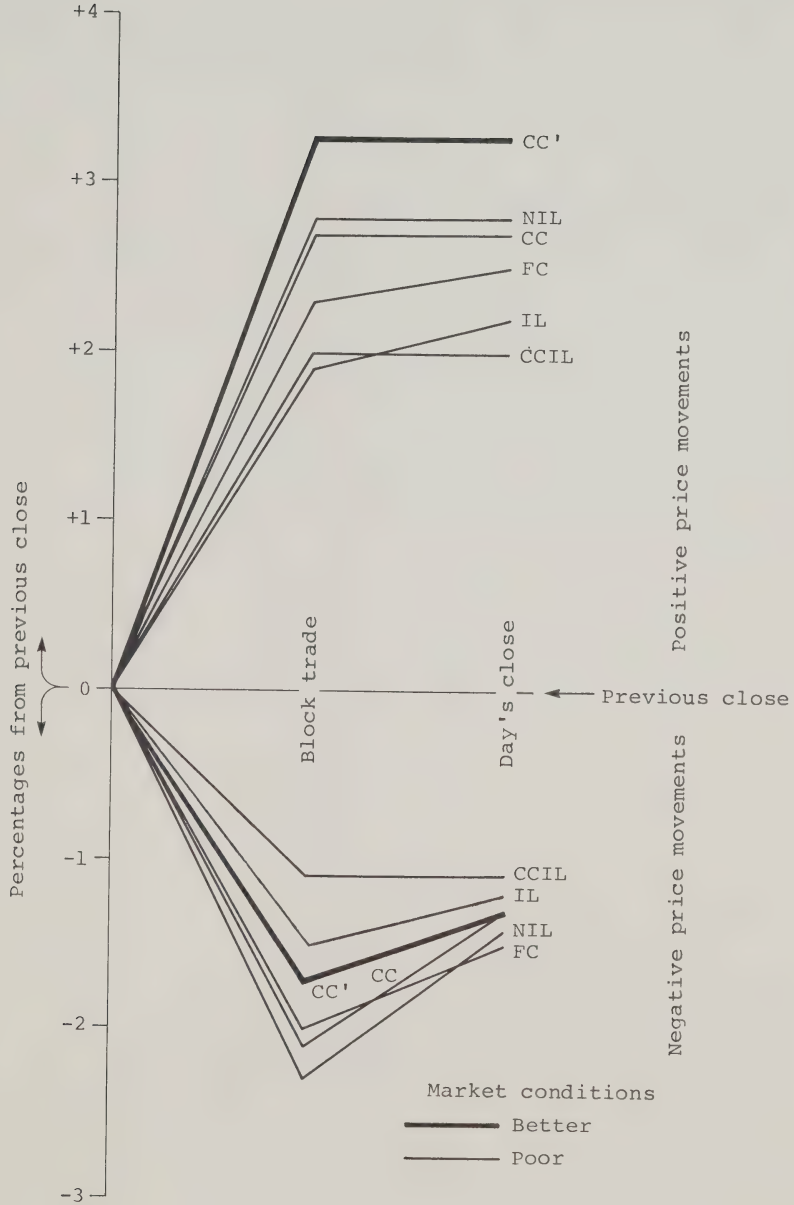
It is crucial to differentiate between the liquidity effect, where a price reversal occurs, and the efficient market situation, where a change in information occurs so that a price movement is not reversed. Figure 1 shows the movements from the previous day's close to the block transaction and the price movement from the block to the day's close for the period of mediocre market performance.

In the United States, the Institutional Investor Study found that price reversals did occur. For price declines: the mean decline between the previous close and the block price was 1.86 per cent (Kraus and Stoll 1972, 575) followed by a rise of 0.71 per cent. The price was too large to reflect 'permanent higher rates of return ... Instead, it appears to reflect a payment for providing short run liquidity' (ibid, 1972, 577). For positive price movements the initial price rise was 1.5 per cent, but there was no marked price decline subsequent to the block transaction.

In Figure 1, the evidence from block transactions on the Toronto Stock Exchange is roughly similar in aggregate to that for the NYSE for the initial price decline, but the recovery varied substantially from group to group. The smallest price decline was for interlisted Canadian-controlled firms, the largest for those securities traded only on the TSE.

For negative price movements the evidence is less clear-cut than the U.S. case. In aggregate, the price rebound was smaller, suggesting that liquidity considerations were less relevant. Canadian-controlled interlisted (CCIL) firms had no price reversal, suggesting the market merely adjusted to new information. This coincides with some earlier results for this category that implied Canadian markets could handle block trades with relative ease. As expected, liquidity costs were greater for CC and non-interlisted (NIL) firms.

Figure 1: Intraday trading for block trades



In better market conditions only CC companies have been plotted in the figure. As indicated earlier, positive price movements were greater than before, whereas for negative price movements both the price decline and rebound were smaller - the cost of liquidity being reduced somewhat during better market conditions.

PRICE MOVEMENTS BEFORE THE TRADE

Because Canadian equity markets are alleged to be thin and institutional holdings often large, knowledge of block transactions frequently exists well before the transaction itself. Consequently, for blocks being sold one would expect price declines in the week or so before the trade. Where it is known that a party wishes to acquire a block, it is likely that prices could rise. Obviously discretion not only is virtuous but also reduces the cost to the transactor in such circumstances.

It is not clear what the balance of the above forces are. For U.S. markets, small price movements on average before the trade are consistent with this analysis. In order to test for such price movements in Canada, another sample was constructed following block transactions for two weeks before the trade and two weeks after. The price movements were examined not only by themselves but also in relation to the market price movements in general. Once again the sample was divided into groups of positive and negative price movements. Weekly price movements were correlated, and the sample correlation coefficients are contained in Tables 22 and 23.

Table 22 includes only positive price movements for block transactions at a price greater than the previous closing price. Price changes between the period ten trading days before the block transaction and five trading days beforehand are positively correlated with the changes for the ten days following the transaction. This suggests that the market is aware of a change of information implied by the block being sought. A statistically significant negative 'snapback'

TABLE 22: Simple correlation coefficients among price movements before and after the trade - block price greater than previous close

	(1) $\frac{P_{-10} - P_{-5}}{P_{-10}}$	(2) $\frac{P_{-5} - P_{pc}}{P_{-5}}$	(3) $\frac{P_{pc} - P_b}{P_{pc}}$	(4) $\frac{P_b - P_{+5}}{P_b}$	(5) $\frac{P_b - P_{+10}}{P_b}$
(1)	1.0				
(2)	-0.328*	1.0			
(3)	0.054	-0.025	1.0		
(4)	0.078	0.116	-0.535*	1.0	
(5)	0.396*	-0.156	-0.356*	0.728*	1.0

	(1) $\frac{P_{-10}}{I_{-10}} - \frac{P_{-5}}{I_{-5}}$	(2) $\frac{P_{-5}}{I_{-5}} - \frac{P_b}{I_o}$	(3) $\frac{P_b}{I_o} - \frac{P_{+5}}{I_{+5}}$	(4) $\frac{P_b}{I_o} - \frac{P_{+10}}{I_{+10}}$
(1)	1.0			
(2)	-0.257	1.0		
(3)	0.092	-0.061	1.0	
(4)	0.181	-0.255	0.727*	1.0

NOTE: P refers to price of stock at trading day, -10, -5, +5, +10, or the block price (P_b), previous close (P_{pc}). I refers to an index of stock market prices on days -10, -5, 0, +5, +10.

TABLE 23: Simple correlation coefficients among price movements before and after the trade - block price less than previous close

	(1) $\frac{P_{-10} - P_{-5}}{P_{-10}}$	(2) $\frac{P_{-5} - P_{pc}}{P_{-5}}$	(3) $\frac{P_{pc} - P_b}{P_{+c}}$	(4) $\frac{P_b - P_{+5}}{P_b}$	(5) $\frac{P_b - P_{10}}{P_b}$
(1)	1.0				
(2)	0.054	1.0			
(3)	-0.345	-0.672*	1.0		
(4)	0.026	-0.031	0.060	1.0	
(5)	-0.147	-0.269	0.357*	0.540*	1.0

	(1) $\frac{P_{-10}}{I_{-10}} - \frac{P_{-5}}{I_{-5}}$	(2) $\frac{P_{-5}}{I_{-5}} - \frac{P_b}{I_o}$	(3) $\frac{P_b}{I_o} - \frac{P_{+5}}{I_{+5}}$	(4) $\frac{P_b}{I_o} - \frac{P_{+10}}{I_{+10}}$
(1)	1.0			
(2)	-0.130	1.0		
(3)	-0.068	-0.205	1.0	
(4)	-0.160	-0.375*	0.766*	1.0

NOTE: P refers to price of stock at trading day, -10, -5, +5, +10, or the block price (P_b), previous close (P_{pc}). I refers to an index of stock market prices on days -10, -5, 0, +5, +10.

correlation can be seen between movements on the days of the transaction and the next five and ten trading days. The movements in the five and ten days after the trade are statistically significant and positively related, as implied by the previous statement. When adjustments are made for the movement of stock market prices as a whole, only one correlation coefficient is statistically significant, as can be seen in the lower portion of Table 22. Fortunately this agrees with the information contained in the top portion of the table.

The correlation coefficients associated with negative price movements, for block transactions at a price less than the previous close, are contained in Table 23. It is surprising to see that the price movements on the day of the block transaction and the five previous trading days are significantly negatively related. This runs contrary to expectations and to U.S. experience and evidence. The negative correlations between price movements for five days before the block transaction and the following five and ten days are not statistically significant. Adjustments for the price movements of the market as a whole, in the bottom half of Table 23, are as expected, in that movements five days before and ten days after the trade, when adjusted for the movement of the market, are negatively related.

BLOCK TRADES AND TOTAL TRADING

One of the structural changes in equity markets over the last fifteen years has been the emergence of large volumes of trading by institutions rather than by individuals acting on their behalf. In theory, this should reduce market liquidity and lead to a greater volatility of prices. Table 24 shows the average share of the blocks examined in the day's trading volume, as well as the minimum and maximum values and the standard deviation. If anything, there is a possibility that these figures are biased downwards because of the sampling of block trades available to us.

TABLE 24: Shares of individual block trades in the daily trade of the issue (%)

	Mean	Minimum	Maximum
Poor market conditions			
Canadian-controlled	62	10	100
Foreign-controlled	64	4	100
Interlisted	46	4	100
Not interlisted	67	10	100
Better market conditions			
Canadian-controlled	63	2	100
Foreign-controlled	59	16	100
Interlisted	69	2	100
Not interlisted	48	13	100

Given that our sample included over two hundred different companies and a wide range of market conditions, the size of blocks relative to total trading appears to be significant on the Toronto Stock Exchange, and the liquidity of these issues is reduced as a consequence. In tweny-one cases, the block trades accounted for *all* the day's trading. In such cases the auction market is playing a very limited role. With only one exception, all the companies where the block trade accounted for all the day's trade in the sample examined were Canadian-owned firms. None were interlisted.

ANOTHER SET OF DATA - FURTHER TESTS

In another set of data, prices of stocks for which there was a block trade were followed for twenty trading days. The sample was divided into plus, minus, and zero price movements, as with the first set of data. If there must be price changes to distribute the block because of liquidity considerations, prices of stocks which rose to trade the block should subsequently fall and vice versa. For blocks which traded at the previous price, there should be no change on average.

Table 25 shows the ratio of the daily closing price to the closing price the day before the block trade. For negative price movements the recovery to the pre-block price took nineteen days on average. For zero price movements on the block trade, the price continued to move around the block price. There is some slippage at the end of the period, but this appears to be part of the random movement and could have been reversed if statistics had been kept after twenty days. As in the earlier work, there is no price reversal for positive block movements.

These data have one problem - they are not able to prevent subsequent block prices from interfering with our sample, since we did not have complete knowledge after the initial trades. In some cases we knew that further block trades did occur. Nonetheless, if these occurred randomly, they would only delay the adjustment and not alter the conclusions. Since the return of negative block prices takes longer in Canadian studies than in U.S. studies where further block trades were excluded, this effect might be included in our data.

CONCLUDING COMMENTS

Having used four sets of data, different time periods, and a multiplicity of tests, it is appropriate, first, to summarize the conclusions and, second, to attempt to state their practical relevance. The differences in observed characteristics among time periods suggests that the liquidity of issues on the

TABLE 25: Relationship of prices to price before the block transaction

Day	Negative		Zero BLKPR = $CLOSE_{-1}$		Positive	
	Mean	Std dev	Mean	Std dev	Mean	Std dev
Block Trade	0.980	0.012	1.000	0.000	1.023	0.019
Day's Close	0.977	0.017	1.002	0.006	1.010	0.020
+ 1	0.979	0.022	1.000	0.023	1.015	0.033
+ 2	0.978	0.025	0.993	0.032	1.018	0.036
+ 3	0.979	0.030	0.992	0.036	1.003	0.017
+ 4	0.988	0.032	0.992	0.039	1.001	0.027
+ 5	0.991	0.035	1.000	0.040	1.011	0.036
+ 6	0.990	0.037	1.003	0.042	1.012	0.049
+ 7	0.987	0.036	0.999	0.036	1.029	0.053
+ 8	0.983	0.039	0.999	0.033	1.022	0.050
+ 9	0.970	0.033	1.006	0.034	1.015	0.046
+10	0.975	0.037	1.003	0.034	1.013	0.050
+11	0.976	0.041	1.001	0.035	1.006	0.048
+12	0.973	0.052	0.995	0.036	1.012	0.050
+13	0.969	0.038	0.998	0.035	1.008	0.043
+14	0.971	0.034	0.994	0.034	1.018	0.053
+15	0.981	0.038	0.998	0.034	1.023	0.057
+16	0.982	0.034	0.998	0.030	1.038	0.068
+17	0.990	0.034	0.996	0.049	1.026	0.058
+18	0.992	0.033	0.999	0.046	1.028	0.066
+19	1.001	0.037	0.993	0.063	1.027	0.071
+20	1.003	0.038	0.987	0.062	1.030	0.069

Toronto Stock Exchange is probably as variable as Saint-Pierre found it to be on the Montreal Stock Exchange. A direct comparison is not possible. If true, it suggests that such studies as this one and the one by Close (1975) need to be replicated in order to get a better picture of the situation. The following more specific points should be noted briefly: First, although there is a certain validity to the point made by the Moore committee that very large blocks are not frequently traded on Canadian exchanges, this experience is variable and the importance of block transactions in increasing. Second, since liquidity deals with the price effect of trying to sell large volumes of an issue on demand, the experience of weak market conditions provides a good guide to the least acceptable conditions likely to be faced. In such circumstances the selling price of a block of equity in a Canadian-controlled firm relative to the previous closing price has a standard deviation of over 3 per cent. This selling price is less predictable than for foreign-controlled firms generally. Although even 3 per cent is a significant additional cost, not to mention the uncertainty, many junior Canadian companies had far worse experiences. One Canadian junior (profit-making) firm in the construction industry had a 10 per cent decline to the block price which was completely reversed during the day's trading. Another declined by 21 per cent to the block price and rebounded by only 10 per cent. Third, also under poor market conditions, interlisted Canadian-controlled firms are more predictable to trade in blocks; the distribution of the block prices will be much closer to the previous closing prices. Furthermore, the market for Canadian-controlled firms in general is such that to trade increasing *volumes* of blocks decreases the price more than for foreign-owned firms. Fourth, financial variables at the level of the firm can explain some of the differences in liquidity, but categorical variables such as place of control or interlisting seem more important.

It may also be useful to compare these results with some others. The basic structure of price movements on the day of the transaction is similar to those shown in U.S. studies and

in the Canadian study by Close. There is less of a price reversal for block purchases, but there is a notable V-shaped price pattern for block sales. The depth of the notch on the V is strikingly similar for the average results (aggregated across different types of companies) and for the results of Close and Kraus and Stoll. The interesting point, however, is that the averages reported by the other studies conceal large but consistent variations across groups. This study found that it took longer for the price of a stock depressed by a block transaction to return to its pre-block price in Canada than in the United States. The pattern of price movements before block transactions was not completely consistent with other studies, and the movements and patterns were frequently not statistically significant. Whereas Close (1975, 53) found that 'there was no direct relationship between the value of the trades and the associated price impacts,' the results shown here found very significant volume effects *during poor market conditions*. And to trade increasing sizes of blocks decreased the price much more for Canadian-owned firms than for foreign-owned firms during periods of weak market performance.

How do these results compare with the United States experience? To contrast the volume or value of block trades conducted on the TSE with U.S. experience, one has only to note that the Institutional Investor Study (Jones, 1972, 311) excluded blocks of less than $1 million or less than 10,000 shares. While the earlier statistics and discussion suggested that block trading was important in the daily trading of the securities involved, the sample, deliberately designed to look at the effect of block trades, was biased upwards. On the NYSE, institutional investors likely account for over 70 per cent of the dollar volume of trading and over 90 per cent of the trading in some securities (*Business Week*, 2 June 1973, 58). U.S. concern about institutional trading and market liquidity led to the *Institutional Investor Study Report* of 1971, which found little negative impact from institutional trading activity but rather a concern about the market structure, the fixed commission rate structure, and regulation. In Canada, institutional trading is less important on the whole.

These are interesting points, but what do they mean for the cost of capital or the comparative use of Canadian equity markets? One hypothesis underlying the present work is, in the words of Tinic and West, that 'one of the most widely cited reasons for Canadian purchases of U.S. securities is the superior marketability of stocks traded in the New York market' (1974, 730). They go on to state: 'The question remains, however, whether given its relative size, the Canadian market as reflected in the TSE, provides marketability services on terms as efficient as those provided in the United States.' Tinic and West show, holding other factors constant, that bid-ask spreads are higher on the Toronto Stock Exchange than on either the New York Stock Exchange or the over-the-counter market in New York. They suggest that the lack of marketability this reflects has caused Canadian savings to emigrate to the United States. Institutions have displaced TSE stocks with NYSE stocks. This, in turn, depresses TSE stocks by lowering the demand for them, thereby raising the cost of equity capital in Canada.

One of the difficulties with the Tinic and West study is that it does not disaggregate to subsectors of the market. While this study is not directly comparable with theirs, the evidence presented here suggests that there are important differences within the Canadian market. Certain categories of Canadian firms do have a liquid market. The problem for policy is to find ways to improve liquidity for smaller firms.

Chapter 7

Institutional and structural issues

Because the study of finance is partly the study of behaviour, assuming portfolio optimization subject to legal and balance sheet constraints, institutional change is a fundamental facet of financial development. Institutional behaviour and performance have changed dramatically in Canada over the last 110 years because of a continuing process of regulatory reform, innovation, growth of funds under management, automation and computerization, and increasing education of the public and the financial community. The historical pictures painted by Naylor, Neufeld, and others tell us how Canadians developed many deeply rooted economic problems, but their current relevance needs to be analysed in order to see some of the longer-term forces at work.

Constraints on the financial system are of at least two broad types: those that pertain to taxes and other governmentally determined factors which alter relative after-tax rates of return (and hence the utilization of different financial intermediaries) and, second, the ever-changing legislative structure which has permitted or prohibited different intermediaries from engaging in particular types of activities. Most of this chapter will be devoted to the latter, where the consequences are more direct.

GOVERNMENT AND RELATIVE RATES OF RETURN

In a market economy, economic growth, the expansion of employment opportunities, and efficient production depend upon finance capital flowing to projects with higher rather than lower rates of return. Market-determined interest rates and yields should signal funds to move from personal, corporate, or

government savers to those who can utilize the funds most profitably, benefiting those on both sides of the transaction. When this process has continued to its furthest extent, rates of return on different investments and projects with the same risk would be equivalent.

Since investors should be interested in comparing after-tax rates of return, the tax system can easily misdirect resources. Inflation affects taxes, corporate profits, and interest rates, so it is also a factor which will alter after-tax rates of return on alternative investments. The effects of many government tax schemes are very direct. Registered Retirement Savings Plans as well as some other investment media permit taxpayers to deduct the investment from taxable income, and the subsequent income from these plans is not taxed. Consequently, unless stock market prices, for example, fall enough to generate an equivalent yield, there is a disadvantage to holding shares directly. Such plans to reduce taxes also encourage greater institutionalization of savings, in order to benefit from tax savings, rather than direct investment in the securities.

The tax system has also made housing a preferred asset. While this is a legitimate social goal, it encourages many people to overconsume housing. They live in houses too large for their basic preferences or, particularly older people, they live in a house when other forms of accommodation would be preferred. The reason is simple; a $50,000 house is as much an asset as a $50,000 bond. In the former case, if the house is owner-occupied, the owner receives housing services rather than interest. The flow of services from a house are not taxable; interest and dividends are taxable. If an owner-occupier wanted to live in an apartment he would be worse off. With the marginal tax rates applicable to most Canadians, he would not be able to invest in an asset with an *after-tax* rate of return that would allow him to rent any close approximation to the housing services he previously enjoyed. Two solutions are possible: either tax the imputed income from housing, which is not a popular proposal, or give a tax break on investment income to those who rent and do not own a home.

Inflation wreaks havoc on the financial system in many ways. Most economic research indicates that an increase in the expected rate of inflation has an approximately similar percentage effect on nominal interest rates (Pesando, 1977, 21). In order to finance some part of the growth of government spending in recent years, the federal government has printed money. It has also increased the demand for loans and credit within the system. Over time, both processes raise prices and interest rates. As interest rates rise, bond prices fall, to equalize yields. Equities as a whole have been performing this way. This lowers wealth and effects investment patterns since firms will be reluctant to issue new equity. The purchasing power of wealth in terms of investment goods is lowered, while the cost of these goods is rising.

Inflation gets built into interest rates as described above. However, since governments have 'unlimited' tax power to cover their interest payments and since their securities are regarded as secure, companies in the private sector may have difficulty covering higher interest payments, particularly in the weak business conditions which usually follow an inflationary period.

THE REGULATORY STRUCTURE

Constitutional issues

The regulation of financial institutions in Canada leaves much to be desired. Although Canada should have a national capital market, the regulation of financial markets is, for the most part, within provincial jurisdiction under section 92 of the B.N.A. Act. Banking, however, is a federal responsibility, although some banking functions are regulated by the provinces.

Because the markets for many financial institutions overlap without regard for the locus of regulatory authority, the entanglement of authority tends either to restrict unduly the business a financial firm can engage in, to the detriment of

consumer and producer alike, or to raise costs to the firm. It may do both. A report by the Economic Council of Canada (1976, 55) reflects a small part of the complexity of the regulatory framework:

> Trust and mortgage loan companies can be incorporated under federal and provincial jurisdictions and are restricted in their consumer and commercial lending activities by both federal and provincial legislation. In addition, any federally incorporated trust or mortage loan company must receive a licence from provincial authorities ... The trustee activities of trust companies ... are governed by provincial legislation regardless of where they are incorporated. Conversely, provincially incorporated trust and mortgage loan companies ... in many provinces are required to qualify for deposit insurance under the Canada Deposit Insurance Corporation.

The Economic Council of Canada also reported that any federally incorporated financial intermediary is regulated by at least three Ottawa agencies.

The inadequacies of the regulation of financial intermediaries are well known and have been documented or criticized by the Economic Council of Canada (1976), Neufeld (1972), and others. The encouragement to over-specialization and the concomitant restrictions on operations because of the compartmentalization of regulation seem to be the major problem. Institutions restricted by regulations according to name or place of incorporation (which are inappropriate criteria for dividing authority) are not allowed to reduce risk or increase yield by acquiring particular assets or liabilities. The restrictions on competition virtually ensure that the depositor is injured in the process. The process of financial intermediation is thereby flawed, increasing the cost and number of institutions that intermediate between those with surplus funds and those able to put them to use, a process central to capital formation and growth. The current revision of the Bank Act is confounded by a federal proposal to bring more deposit-taking institutions under the federal authority. Although such a move is desirable, it is a principle of monetary economics that

reserve requirements are not necessary as a method of monetary control - they are a tax which provides an interest-free loan to the federal treasury. (1)

Problems also arise in securities legislation - a matter of exclusive provincial jurisdiction. The securities market must be a national market. An offer of securities made on a nationwide basis must comply with the prospectus and other requirements of ten provincial securities commissions. Co-operation by provincial governments has fortunately reduced the complexity and cost of this task. But provincial regulation of the national securities' market is defective in that the territorial limits preclude the proper execution of many regulatory and legal responsibilities. Also, the limited resources of the provincial securities administrations are spread too thinly and are likely to be misallocated. It has been suggested that some federally incorporated firms cannot be subjected to provincial laws 'to the extent that those laws impair the essential attributes of (federal) corporate status' (Hogg, 1974, 79). Their interprovincial and international aspects, together with defects of provincial jurisdiction, point to a federal jurisdiction. This can be justified constitutionally by reference to the federal power either to ensure peace, order, and good government, to regulate interprovincial and international trade and commerce, or to enforce the criminal law - all federal powers under the B.N.A. Act (ibid, 87). A case has often been made for a national securities authority, for example by Potter (1971), Hogg (1974), or the Canadian Committee on Mutual Funds and Investment Contracts (1969).

Proposals have also been made to bring provincial securities trading and underwriting under the federal competition authority. Currently they are protected by provincial legislation. The *Report* of the Royal Commission on Banking and Finance (1964a) noted that underwriting syndicates tended to

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1 An interested reader may refer to Johnson (1976) for a discussion of this point.

ossify and new firms find it almost impossible to participate. In the United States prices are more important and reciprocal business less so. One possible reason why nothing has improved this situation is that since underwriters and securities dealers distribute the debt of provincial governments those governments are unwilling to improve competition. While this is too cynical, the case for federal policy to apply to what is currently an inappropriately allocated provincial domain is compelling.

Finally, the Canada Pension Plan (CPP), and the Quebec Pension Plan (QPP), and provincial pension plans for civil servants place funds in the province in which they are collected rather than on the basis of yield or benefit to the future pensioner. These funds usually go into provincial government or guaranteed bonds. If the CPP and QPP move to a fully funded basis this problem could become more serious. Also, provincial governments, such as Quebec's, have suggested from time to time that more of the funds of provincial life insurance companies, for example, should be invested in the province. If Canada is a common market and the interests of investors, depositors, and pensioners are to be protected from the whims of governments, such proposals should be strenuously rejected.

Change and financial liberalization

The history of the last 110 years has seen the extent of competition in financial markets increase steadily. (According to Naylor's historical analysis, it would seem that there was no other direction in which to go.) Each revision of the Bank Act brings about greater liberalization. For example, in the 1967 Bank Act revision various impediments to chartered bank operations were removed, namely the interest rate ceiling and the effective prohibition on conventional mortgage loans. The reason this process has been slow is that, generally speaking, neither the regulated nor the regulators desire significant change.

Nonetheless, there are very few compelling economic reasons to restrict competition among financial institutions. One of the few legitimate reasons is to reduce conflicts of interest. The separation of trust activities from banking operations is the clearest example in Canada where market segmentation has been used to prevent such conflicts. Bank lending and investment decisions are removed from the influence of the management of funds under trust, and vice versa. However, a price is paid for this type of restriction, and it can be seen in the limited competition for trust functions. But other areas where the acknowledgement of conflict of interest is at least as great go uncorrected. For example, the conduct of securities underwriting and securities retailing under one roof is admitted by almost all brokers to lead to activities likely to be prejudicial to individual investors. Since underwriting revenue is concentrated in major corporations while there are hundreds of thousands of individual investors whose interests are diffuse and where the costs of action and information relative to any gains are large, integrated brokerage firms act accordingly and rationally. The point here is not to belabour the securities industry, but merely to point out that there are many potential conflicts of interest. They could be alleviated by reducing competition, but the political process has chosen to deal with only a select few.

Canada has developed a healthy but extremely regulated deposit-taking sector. Even though (or perhaps because) these industries are concentrated, they have been prevented from engaging in other activities such as investing in equities because of a perceived danger of further concentration which Canadian politicians and government officials have from time to time associated with financial markets in Germany and Japan.

In view of the fixed costs of operating extensive branch networks of deposit-taking institutions in Canada, liberalization to allow these firms to serve wider financial needs could only increase the performance of the Canadian economy by mobilizing and intermediating more funds in a less costly way. If entry were made easier and the barriers separating

financial functions removed, competition would be robust.(2) Since many regulatory bodies are now operating, provincial securities commissions, registrars of trust and loan companies, the inspector general of banks, and so forth, market segmentation is likely to be redundant and a costly way of eliminating conflicts of interest. There is no shortage of literature to support this opinion.

In terms of the competition in underwriting, one could cite the concerns of the Royal Commission on Banking and Finance (1964a), Peters (1971), the Securities Industry Ownership Committee (1972), Lafferty (1975), investigations by academics, and newspaper reports. Peters (1971, 115) notes that 'The lack of competition in the investment dealer business is a principal cause of the operational inefficiency in the Canadian corporate bond market.' The Securities Industry Ownership Committee concurred: 'We note with concern the seeming lack of competition among dealers in vying to become the financial adviser and originating dealer (prime underwriter) for major Canadian companies. These arrangements tend to become "traditional".' (1972, 42). If one wanted to look at deposit-taking institutions, one could cite Griffiths (1975), Dean and Schwindt (1976), the Economic Council of Canada (1976), and academic and business publications.

With respect to international comparisons, Table 26 shows that Canada has one of the most concentrated banking systems in the world. While this is not evidence of a lack of competition, it illustrates the fact that Canada has a financial system with a relatively small number of large participants. By international standards, however, our banks are not nearly as large as their competition in overseas markets for international funds, an area of increasing importance for Canadian borrowers.

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2 This has been recommended recently by the *Report* of the Royal Commission on Corporate Concentration (1978), and the proposed legislation for the 1978 revision of the Bank Act seems to go some way towards this goal.

TABLE 26: Four-firm concentration ratios for banking in various countries (1974)

Netherlands	0.96
Belgium	0.94
Canada	0.90
Australia	0.78*
France	0.69
Spain	0.54
Italy	0.47*
Germany	0.28
United States	0.23
Japan	0.23

*1973

SOURCE: Assets of the individual banks were taken from 'The Top 300,' *The Banker* (1975, 677-729). Assets of the banking system were taken from *International Financial Statistics*, International Monetary Funds, various issues.

While the simple point being made is that the liberalization of financial markets should be encouraged and accelerated in the best interests of Canadian industry, Canadian savers, and likely the Canadian financial institutions themselves, the forces acting in a *restrictive* manner are great. For example, at the 1976 Ontario Securities Commission hearings on whether to continue with fixed commission rates, one Toronto broker stated: 'We believe the time has come for less competition between market places in Canada rather than more.' (Howe, 1976, B2).

Government regulations also continue to hinder liberalization. For example, in many areas of Canada the chartered banks are the only institutions able to arrange securities transactions for clients. Because of provincial intentions to expand their control over securities markets, provincial

securities legislation and intent seem to be directed towards severely curtailing these useful bank activities. Furthermore, as the Canadian Bankers' Association has noted, 'many customers in larger centres prefer to deal with their bank rather than with someone whose interest is primarily in selling' (1975, 28).

The provinces have been a major factor in limiting competition. In a 1975 speech to the Trust Companies Association of Canada, the then Ontario minister of consumer and commercial relations, Sidney Handleman, stated: 'Nor do I personally favour the economic concentration that could result if the distinctions between types of financial institutions were eliminated.' This statement is self-contradictory, since eliminating such distinctions would increase competition in the submarkets in which the institutions were involved. To be logical, the statement must assume that destructive competition would occur. The minister went on: 'Nor do I see much advantage to the consumer in expanding competition between banks and trust companies in the area of consumer lending.' However, consumer loan rates declined rapidly after the 1967 Bank Act revision which allowed more chartered bank competition with consumer loan and finance companies. This suggests that society has gained from increasing competition. Whether there are still gains to be made is irrelevant. Industry, particularly financial firms, should not be prohibited from expanding any service for which it can see the market and for which it will bear the risk, nor should governments be required to protect industries from their own actions.

Chapter 8

Summary and conclusions

A recurrent theme in this monograph has been that domestic economic development and financial development are intimately connected. Since Canada is a younger country than many of its partners and hence at an earlier stage of development, it is not surprising that at times it has seemed stuck in a truncated, colonial pattern of growth. Traditional Canadian concerns may have to give way before new sources of change and strength. Canadian problems, moreover, are not unique but common to many other nations, such as venture capital formation and allocation.

Canadians may well be ignorant of many developments in financial markets which will ultimately aid Canadian ownership and control. One major issue raised in every report on foreign control has been the lack of very large pools of funds for major Canadian investment projects. Currently, the domestic consortium lending capacity of the banking system for single projects is in the vicinity of $1 billion (Gardiner, 1977, 11). In relation to Canada's historical ability to mobilize capital, the country's potential is vastly improved today. Another institutional change has been the development in Canada of bond and credit rating services. For many years in the United States these lowered uncertainty and information costs and raised the efficiency of the financial system. Since the early 1970s similar services have been available in Canada. Given the decline in financial standards discussed in chapter 3, this is an important, but generally unrecognized, development which will help Canadian-controlled firms more than others.

The major ongoing source of gain in Canadian capital markets has been the increase in market competition. In the discussion of the history of the Canadian financial system in

chapter 2, the impediments to competition - both legislative and otherwise - were noted, as was the restricted variety of financial intermediaries in comparison to other countries. A re-reading of the decennial reviews of the Bank Acts reveals a continuing trend towards allowing a competitive interface between more intermediaries, thereby lowering the cost of funds and increasing their availability. The complex federal-provincial regulatory structure in Canada has not helped this process. The public discussions at the time of the Bank Act revisions illustrate the fact that many financial institutions would prefer legislators to carve up and protect their markets for them. Nonetheless, over a long period of time this process has continued and will continue to occur.

In the area of credit, banks and other sources of funds have been increasing the availability of funds to more lenders and, just as important, have been lengthening the maturity of many loans. Not all borrowers receive the funds they require at the terms they feel they need, nor will they in the future. As discussed in chapter 1, the capital market performs a role in allocating funds to the most rewarding prospects as perceived in the market. This discipline, exercised through the many characteristics of credit, is the legitimate function of the financial system.

A number of other areas of concern may be addressed constructively based upon material in earlier chapters. First, there is uniform agreement in the literature that the liquidity of Canadian equity markets is inadequate. More accurately, the liquidity of Canadian stock markets is volatile. When different groups of securities or different time periods are observed, the liquidity of many securities on the Toronto Stock Exchange may be as good as or better than that of securities on U.S. exchanges. This topic was discussed in detail in chapter 6. Secondly, the growing importance of retained earnings of foreign subsidiaries is discussed in several places in the text. The proportion of the net increase in undistributed earnings within the net increase in the book value of foreign direct investment has been increasing from one-third or less

in 1960 to 90 per cent in 1974. Foreign direct investment will continue to grow without an infusion of new funds across the border (at least as conventionally measured.) A structural issue then raised is whether retained earnings are used as efficiently, from a Canadian point of view, as funds intermediated by the discipline of capital markets. This point has a long history, and was first raised specifically in Canada by Hood's study for the Royal Commission on Canada's Economic Prospects (1958). It has assumed greater importance since that time as research in other countries has shown that the rate of return to 'ploughback' is appreciably below that to debt or equity. In the Canadian case recent research by McFetridge (forthcoming) could not substantiate similar concerns here.

A point generally not recognized in the host country literature on capital markets and foreign direct investment is the importance of financial factors in the capital-exporting country. What is more generally appreciated is the asymmetry between domestic firms and foreign subsidiaries in terms of the cost and availability of funds. On the first point, the historical literature clearly notes the financial factors in capital-exporting countries which caused funds to migrate. The analysis present in chapters 4 and 5 showed that both in Canada and in the United States interest rates, stock market prices, profits, and dividends were important in explaining foreign direct investment and foreign takeovers. Often the U.S. financial influence is greater than the influence of Canadian variables. Surprisingly, neither the foreign exchange rate nor the exchange rate system had an impact on foreign direct investment or its components. The analysis of business risk showed that the perception of Canadian risks was similar to that for U.S. risks, even though there was clearly a gain to diversification in Canada.

These remarks suggest that if financial factors continue to play a significant role in foreign direct investment many of the relevant determinants are not sujbect to Canadian control. Furthermore, since domestic Canadian firms will be more constrained by restrictive monetary policy in Canada, foreign

subsidiaries will be at an advantage. The literature supports the view that *at times* restrictive monetary policy has likely hurt or curtailed the growth of Canadian-controlled firms relative to subsidiaries. Nonetheless, there are mitigating factors, such as the expansion of trade credit and a changing attitude on the part of lenders (albeit often at the behest of the authorities).

The financial profiles of chapter 3 did illustrate that different financial ratios are generaly observed for Canadian-controlled firms than for foreign-controlled firms, and there has been a general downtrend in firms' financial performance. Although there was a cyclical relationship between financial performance and the macroeconomic financial variables in the economy, the variation was not pronounced enough to indicate a cyclical asymmetry in favour of subsidiaries.

What did emerge in chapters 4 and 5, however, was the fact that the crowding-out of private borrowers by government cash needs has played a small role in encouraging foreign direct investment. This is consistent with many widely held assumptions about the performance of Canadian financial markets, but far more work would have to be done to determine the exact causative mechanisms.

SOME FINAL WORDS

My tentative conclusion is that, although financial factors have played a role in encouraging foreign investment and takeovers, they are no longer as important as they once were. Nonetheless the financial information that would enable analysts to appraise this topic on a continuing basis are not available in a useful form. Given the nature of the CALURA data-gathering exercise, more information could be usefully presented on this topic. Furthermore, a detailed microeconomic examination by CALURA staff or others who could preserve the confidentiality of CALURA's corporate information would be extremely valuable. This would allow far greater insight into the effects of monetary policy on foreign-and Canadian-controlled firms, as well as many of the other questions discussed above.

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